BATTLETECH® 1680

BATTLESPACE™

THE BATTLETECH GAME OF SPACE COMBAT

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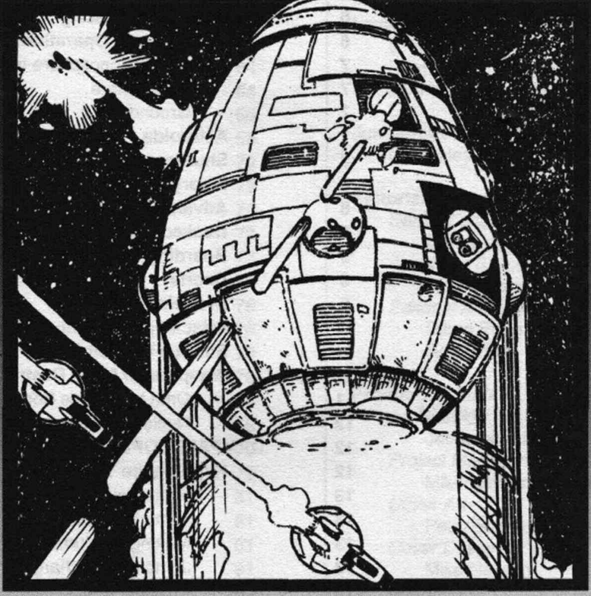
FASA CORPORATION

BATTLESPACE™



RULE BOOK

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CONTENTS

- **INTRODUCTION** 4
  - **Components** 4
    - Counters 4
    - Record Sheets 6
    - Mapsheets 6
    - Dice 6
  - **Game Terms** 6
    - Fire Factor 7
    - Piloting Skill Rolls 7
    - Other Rolls 7
    - Margin of Failure 7
- **PLAYING THE GAME** 8
  - **Sequence of Play** 8
    - Initiative Phase 8
    - Movement Phase 8
    - Combat Phase 9
    - End Phase 9
  - **Clan Rules of Engagement** 9
- **MOVEMENT** 11
  - **Facing** 11
  - **Thrust Points** 11
    - Using Thrust Points 11
  - **Stacking Limit** 12
  - **Control Rolls** 12
    - Making Control Rolls 12
  - **Special Actions** 13
    - Evade 13
    - Roll-Over 13
    - Change Formation 13
    - Hover 13
    - Docking 13
    - Launch/Recover 13
    - Landing 13
    - Jump 13
- **COMBAT** 14
  - **Detection** 14
  - **Weapons Fire/Firing Arcs** 14
    - WarShips 16
    - Fighters 16
  - **Heat** 16
  - **Range** 16
  - **Making the Attack** 17
  - **Damage** 17
    - Armor 17
    - Applying Damage 18
    - Determining Fighter Damage 18
    - Damage to Fighters 19
  - **Critical Damage** 20
    - Critical Damage Effects 22
    - General Critical Damage 23
    - JumpShip/WarShip Critical Systems 26
    - Space Station Critical Damage 29
- **OPTIONAL RULES** 30
  - **Advanced Movement Rules** 30
    - Optional Thrust Point Use 30
    - Optional Facing 30
  - **Atmospheric Operations** 32
    - Space/Atmosphere Interface 32
    - Atmosphere 32
    - Ground 34
  - **Asteroids** 35
  - **Shuttlecraft** 35
  - **Emergency Exit Systems** 35
  - **Advanced Point Defense Weapons** 36
  - **Docked DropShips** 36
  - **Boarding Actions** 36
  - **Debris** 37
  - **Dropping Troops** 37
  - **Attacking the Jump Sail** 38
  - **Surface to Orbit Fire** 38
  - **Weapons of Mass Destruction** 39
    - Orbit to Surface Bombardment 39
    - Nuclear Weapons 40
- **CAMPAIGN OPERATIONS** 42
  - **Hyperspace Travel** 42
    - Jump Point 42
    - Jump Field Damage 44
    - Making the Jump 45
    - Jump Sail Recharging 46
    - Physical Effects of Hyperspace Travel 48
  - **Detection** 48
  - **Deep-Space Rendezvous** 49
  - **Docking** 49
    - Moving Damaged Craft 50
  - **Launching/Recovering Small Craft** 50
    - Recovering Fighter Casualties 52
  - **System Transit** 52
    - Fuel Consumption 52
    - In-Flight Refueling 53
    - Pilot Modifiers 53
  - **Planetary Landing** 53
  - **Liftoff** 55
  - **Cargo** 56
  - **Maintenance** 56
    - Support Points 56
    - MPV (Small Craft) 57
    - MPV (Large Craft) 57
    - Effects of Maintenance 58
    - Maintenance Costs 60

CREDITS

- **Repair** 60
  - Repair Modifiers 60
  - Component Repair 61
  - Armor Repair 61
  - Jump Sail Repair 61
  - Fighter Repair 61
- **Crew** 62
  - Crew Quality 62
  - Crew Requirements 62

CONSTRUCTION RULES 64

- **DropShip Construction** 64
  - Determine Parameters 64
  - Determine Propulsion 64
  - Determine Structure 66
  - Choose Weapons 68
- **JumpShip/WarShip Construction** 72
  - Determine Parameters 72
  - Add K-F Drive 72
  - Determine Propulsion 73
  - Determine Structure 73
  - Choose Weapons 75
- **Space Stations** 76
- **Calculating the Cost** 76
- **Converting AeroTech Craft** 78
  - Movement/Fuel 78
  - Offensive Systems 78
  - Armor 78
  - Miscellaneous Stastics 79
  - Fighter Units 79

AEROBATTLE 81

- **Fighter Engagements** 81
- **Modifying BattleSpace** 81
  - Armor Re-scale 81
  - Weapons Split and Re-scale 81
  - Expanded Combat Rules 81
- **Low Atmosphere Rules** 83
  - Altitude Levels 83
  - Map Scale 83
  - Movement 83
  - Air-to-Air Combat 84
  - Air-to-Ground Fire 84
  - Return Fire 86

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INTRODUCTION

A burst of infrared radiation signals the invaders' arrival in-system. Space blurs, then resolves itself into the needle-like shape of a JumpShip. As the vessel snaps solidly into existence, the crew scans the immediate vicinity for threats. Nearby areas of space shimmer, marking the arrival of the rest of the fleet. As DropShips detach from their fragile transports and accelerate toward the target planet, the ships of the fleet deploy huge, flexible, metallic discs to collect the rays of the nearby stars, recharging their Kearny-Fuchida drives.

Having covered half the distance to the target, the fleet of DropShips turns end-over-end and fires their engines to reduce their velocity. As the attackers make a controlled approach to the target, both sides launch squadrons of fighters to take up defensive positions and protect their larger cousins from the opposing forces.

Unwilling to intercept in deep space, the defenders gather and wait in orbit around their planet. Fighters strain under multiple-G maneuvers while the DropShips travel steadily onward, moving like whales among darting minnows. The battle is joined—the minnows become piranhas, biting at the enemy DropShips. Alone, a fighter would be only a minor nuisance to a DropShip, but like piranhas, fighters rarely attack alone. Half-a-dozen fighters break through to converge on a BattleMech transport, shredding armor and vital systems. Though badly damaged, the craft limps toward its goal with the help of a friendly fighter squadron.

This is the large-scale action of planetary invasion, where the skill and daring of fighter pilots and the tactical training of captains of DropShips, JumpShips, and rare WarShips determine the fate of planets and the tide of war.

BattleSpace is a game for two or more players that simulates battles in space between the Houses of the Inner Sphere, and the invading Clans. Players command a range of craft, from DropShips, the workhorse vessels of transport and planetary travel, through fighter units, to the flimsy needle-like JumpShips, necessary for interstellar travel. **BattleSpace** also provides rules for the huge, deadly WarShips, powerful, jump-capable combat ships unseen in the Inner Sphere since the beginning of the Succession Wars.

The rules for playing **BattleSpace** begin with **Playing the Game**. The **Movement** and **Combat** sections expand on the elements of the sequence of play. **Optional Rules** allows players to add more complexity to the basic **BattleSpace** game, and **Campaign Operations** covers situations likely to occur during a campaign. The **Construction Rules** section outlines the procedure and formulas for creating custom-made craft of all sizes. The **AeroBattle** section incorporates fighter-to-fighter engagements into the larger scale of **BattleSpace**.

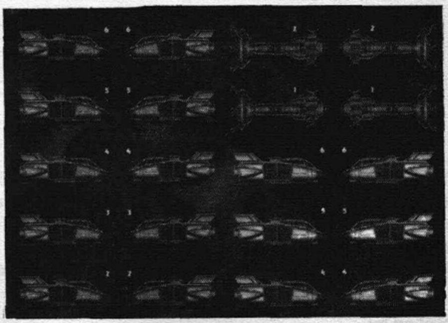
BattleSpace was designed to allow players to run a campaign in space, playing out all those elements usually neglected in the rush to land BattleMechs and start slugging it out. This book supplements **DropShips and JumpShips** by streamlining the operations rules and expanding other sections, and provides an alternative to **AeroTech** by incorporating those rules into the **BattleSpace** sequence of play and construction rules. Players will need the **BattleTech Compendium** and **MechWarrior, Second Edition,** to play **BattleSpace**.

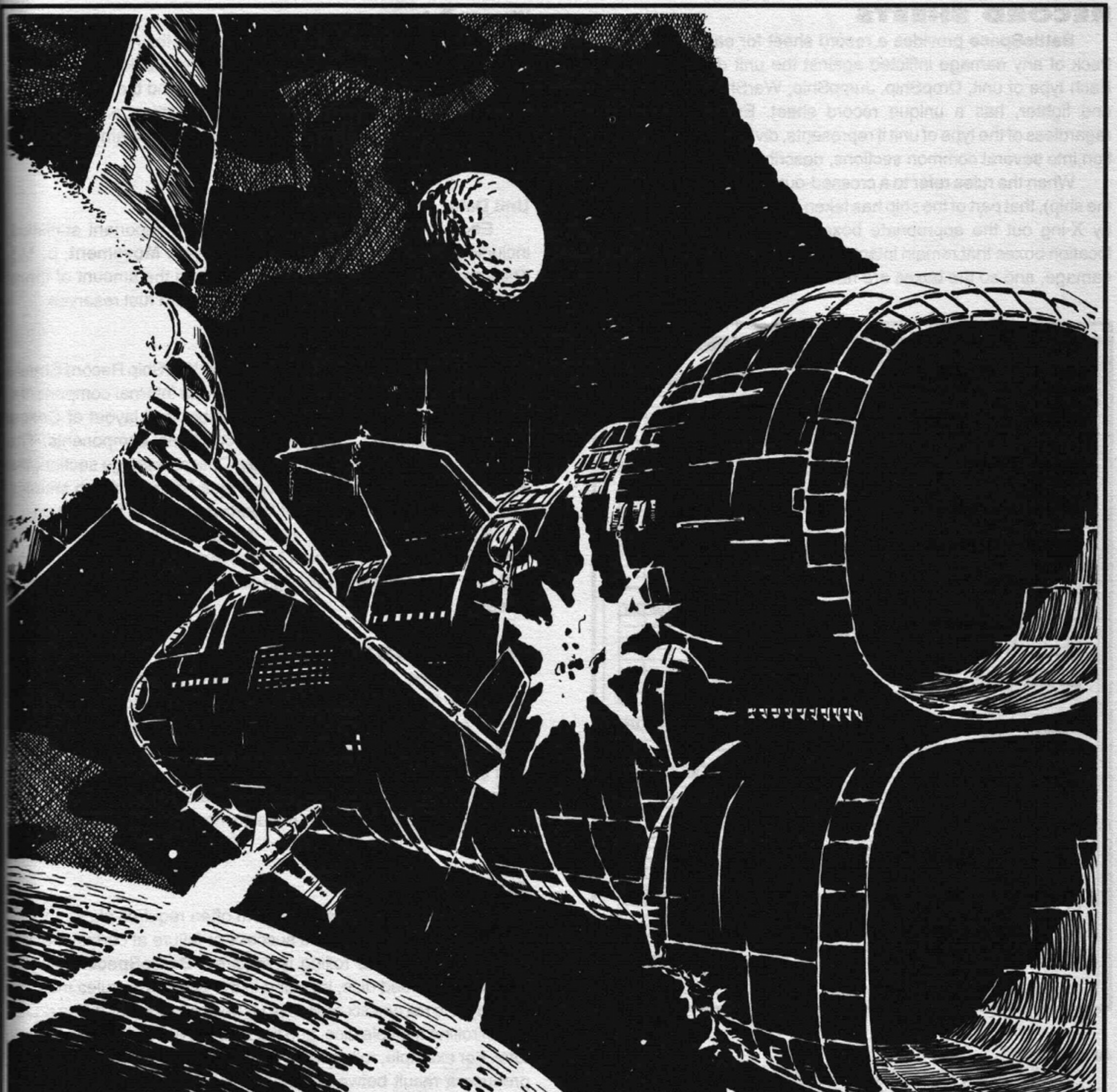
COMPONENTS

BattleSpace provides the following components to play the game. As used here, the word *unit* refers to a single vessel of any type or a squadron of fighters.

COUNTERS

BattleSpace provides a number of color counters to mark the position and orientation of each unit on the map. The followin counters represent shuttlecraft, DropShips, JumpShips, fighte units, WarShips, and space stations. Additional counters mar asteroids and other obstacles (such as destroyed units), mark a craft's heading (or orientation), and show the formation of a fighte unit.

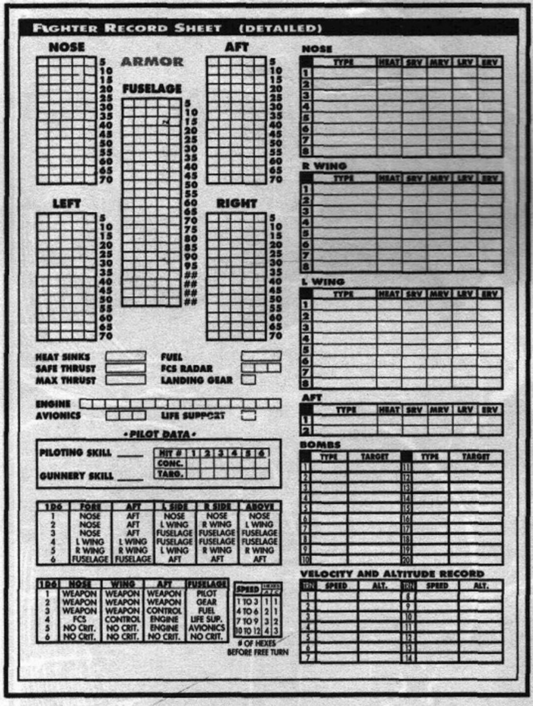




RECORD SHEETS

BattleSpace provides a record sheet for each unit, to keep track of any damage inflicted against the unit during the game. Each type of unit, DropShip, JumpShip, WarShip, space station, and fighter, has a unique record sheet. Every record sheet, regardless of the type of unit it represents, divides needed information into several common sections, described below.

When the rules refer to a crossed-out box (a damaged area of the ship), that part of the ship has taken damage, which is indicated by X-ing out the appropriate boxes. Unmarked boxes refer to location boxes that remain intact (that part of the ship has taken no damage, and so the boxes are not crossed out).



FIGHTER RECORD SHEET (DETAILED)

ARMOR

NOSE
5
10
15
20
25
30
35
40
45
50
55
60
65
70

FUSELAGE
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
##
##
##
##

AFT
5
10
15
20
25
30
35
40
45
50
55
60
65
70

LEFT
5
10
15
20
25
30
35
40
45
50
55
60
65
70

RIGHT
5
10
15
20
25
30
35
40
45
50
55
60
65
70

HEAT SINKS
SAFE THRUST
MAX THRUST
FUEL
FCS RADAR
LANDING GEAR
ENGINE
AVIONICS
LIFE SUPPORT

• PILOT DATA •

PILOTING SKILL ____
GUNNERY SKILL ____

HIT #	1	2	3	4	5	6
CONC.						
TARG.						

1D6	FORE	AFT	L SIDE	R SIDE	ABOVE
1	NOSE	AFT	NOSE	NOSE	NOSE
2	NOSE	AFT	L WING	R WING	L WING
3	NOSE	AFT	FUSELAGE	FUSELAGE	FUSELAGE
4	L WING	L WING	FUSELAGE	FUSELAGE	FUSELAGE
5	R WING	R WING	L WING	R WING	R WING
6	FUSELAGE	FUSELAGE	AFT	AFT	AFT

1D6	NOSE	WING	AFT	FUSELAGE
1	WEAPON	WEAPON	WEAPON	PILOT
2	WEAPON	WEAPON	WEAPON	GEAR
3	WEAPON	WEAPON	CONTROL	FUEL
4	FCS	CONTROL	ENGINE	LIFE SUP.
5	NO CRIT.	NO CRIT.	ENGINE	AVIONICS
6	NO CRIT.	NO CRIT.	NO CRIT.	NO CRIT.

SPEED	HEXES A	HEXES C
1 TO 3	1	1
4 TO 6	2	1
7 TO 9	3	2
10 TO 12	4	3

OF HEXES BEFORE FREE TURN

NOSE

	TYPE	HEAT	SRV	MRV	LRV	ERV
1						
2						
3						
4						
5						
6						
7						
8						

R WING

	TYPE	HEAT	SRV	MRV	LRV	ERV
1						
2						
3						
4						
5						
6						
7						
8						

L WING

	TYPE	HEAT	SRV	MRV	LRV	ERV
1						
2						
3						
4						
5						
6						
7						
8						

AFT

	TYPE	HEAT	SRV	MRV	LRV	ERV
1						
2						

BOMBS

	TYPE	TARGET		TYPE	TARGET
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

VELOCITY AND ALTITUDE RECORD

TRN	SPEED	ALT.	TRN	SPEED	ALT.
1			8		
2			9		
3			10		
4			11		
5			12		
6			13		
7			14		

Armor Data

The boxes on the left-hand side of each record sheet represent the amount of armor plating on each facing of the unit. Fighters use a single set of Armor boxes to represent the armor on each unit; DropShips have four armor facings, Fore, Aft, Left Side, and Right Side. WarShips, JumpShips, and space stations have six armor facings, Fore, Aft, Fore-Left, Aft-Left, Fore-Right, and Aft-Right. Successful attacks damage the armor (reduce the number of unmarked Armor boxes); when no Armor boxes remain unmarked, the unit will take critical damage if hit on that facing.

Weapon Data

The table in the upper right-hand side of the record sheet lists the weapons bays of each vessel. Each line provides data on the type of weapons in the bay, their firing arc, and the damage they inflict at a given range. See the **Combat** section, p.14, for more information on weapons. This table also gives the amount of heat generated by using that weapons bay.

Unit Data

Each record sheet also lists the unit's important statistics, including its Safe and Maximum Thrust (see **Movement**, p. 11). The same section provides space to record the amount of thrust currently available, and the unit's velocity and fuel reserves.

Critical Damage Data

The final section of the DropShip and WarShip Record Sheets provides a template of the unit's vulnerable internal components. Each class of ship has a different number and layout of Critical Damage boxes, and a different mix of internal components. The Fighter Record Sheets do not have a Critical Damage section; the amount of damage required to destroy a fighter is much smaller. See **Critical Damage**, p. 20 of **Combat**, for more information.

BattleSpace provides two WarShip Record Sheets. The Small WarShip Record Sheet is for WarShips massing less than 750,000 tons. Heavier WarShips use the Large WarShip Record Sheet.

MAPSHEETS

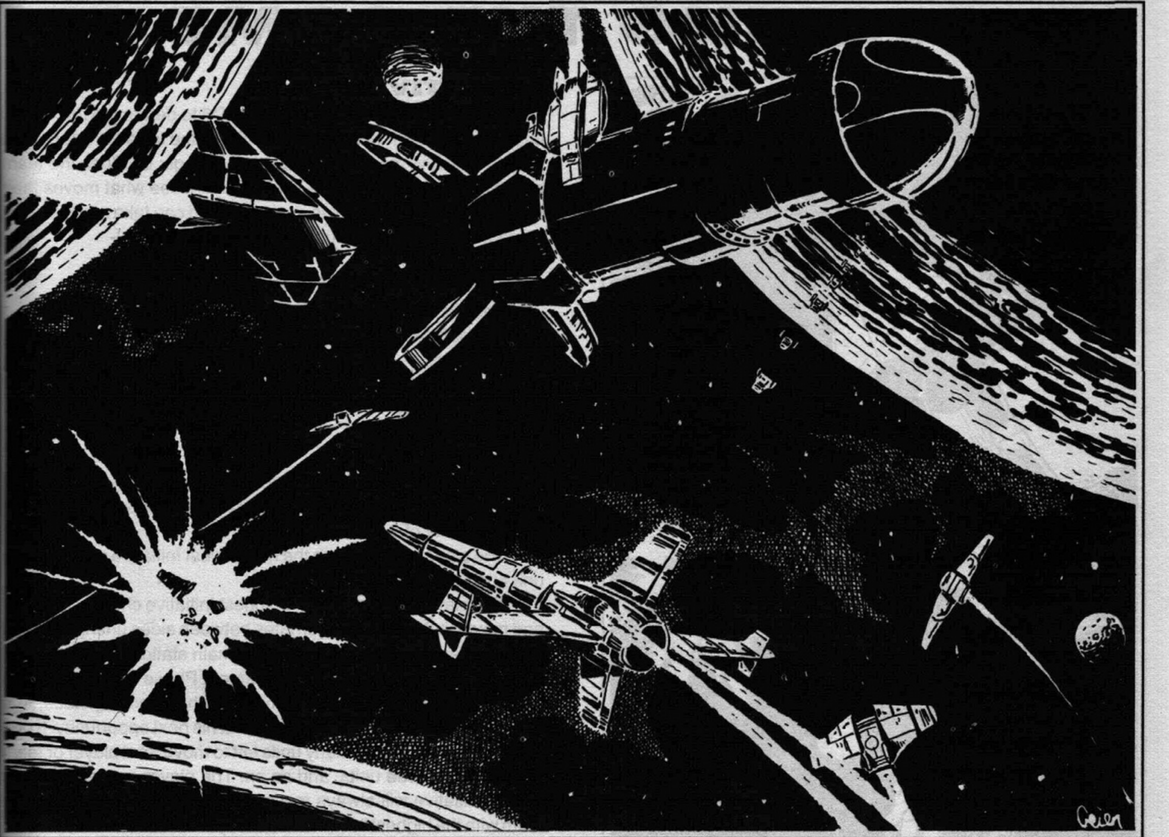
The game provides two mapsheets printed with a grid of hexagons (or hexes). These hexes regulate movement in the game, and provide a quick means of calculating the distance between units. Each hex represents approximately 18 kilometers (just over 11 miles). This is the distance that a craft would cover every Game Turn (1 minute) after accelerating at one-half gravity (5 meters/sec./sec.) for one minute (moving at 1,080 kph or 670 mph).

DICE

The **BattleSpace** game system often requires players to roll dice to determine their unit's success or failure at certain maneuvers. Whenever dice rolling is required, **BattleSpace** uses two standard six-sided dice, included in the game. The rules may ask the player to roll one six-sided die (1D6) or two six-sided dice (2D6). When rolling multiple dice, add the result of each die to get a single total. For example, rolling 1D6, that is, rolling one six-sided die, will produce a result between 1 and 6. Rolling 2D6 and adding the results will give a total between 2 and 12.

GAME TERMS

The following information reviews game terms introduced in previous products and defines terms used in **BattleSpace**. See **MechWarrior, Second Edition** and the **BattleTech Compendium** for more information.



FIRE FACTOR

In **BattleSpace**, weapons damage is grouped together in single values called Fire Factors. Each weapons bay of a DropShip, JumpShip, WarShip, or space station has a single Fire Factor. The Fire Factor, or damage, of each weapons bay is different at different ranges. (See **Combat,** p. 16, for more information.)

PILOTING SKILL ROLLS

Whenever a pilot attempts to execute a difficult maneuver or his ship is exposed to circumstances that might cause the pilot to lose control, the player makes a Piloting Skill Roll. The **BattleSpace** rules indicate when the player should make a skill roll, and also provide modifiers to this roll. Add any appropriate modifiers to the Piloting Skill Level.

To make a Piloting Skill Roll, the player rolls 2D6. If the result is equal to or greater than the modified Piloting Skill Level, the pilot maintains control of his craft. If the result is less than the modified Piloting Skill Level, the pilot loses control and suffers the consequences given in the rules for each situation.

OTHER ROLLS

BattleSpace uses dice rolls to resolve other types of actions and situations. In these cases, the rules will instruct the players to make a Repair Roll, Landing Roll, and so on. The player rolls 2D6 and compares the result to a base or modified number to determine the outcome of the action. For example, a player making a Repair Roll compares the result of the 2D6 roll to the repair difficulty (a target number provided for each component of a ship).

MARGIN OF FAILURE

When a player makes a roll and fails (gets a result less than the target number), how badly he failed may affect the pilot and the craft. The difference between the dice roll result and the target number is called the Margin of Failure.

PLAYING THE GAME

The **BattleSpace** game system allows players to run a campaign using all the resources required to approach a target system, evade or blast through the system defense, land ground troops on the target planet, and take the objective or effect an orderly retreat.

SEQUENCE OF PLAY

The *sequence of play* provides a framework for the rules of **BattleSpace**, regulating the players' actions and giving structure to the game. The optional and campaign rules add complexity to the basic sequence of play. Players repeat the sequence of play until the action or battle is resolved. The sequence of play consists of:

Initiative Phase
Movement Phase
Combat Phase
End Phase

INITIATIVE PHASE

One player from each team rolls 2D6 to determine the team's Initiative. The team with the higher roll has the Initiative throughout the turn. Having the Initiative is an advantage; because the team with the Initiative moves last, those players see what moves their opponents intend to make in each turn, and can take advantage of those maneuvers and counter them if necessary.

MOVEMENT PHASE

Vessels move in the following order, according to size:

JumpShips
WarShips
DropShips
Fighter Units
Escape Pods
Lifeboats

The player or team with the lowest Initiative chooses one unit and moves it. A unit's move may be to remain stationary, if the craft has a Velocity of 0.

The player or team with the next lowest Initiative chooses one unit and moves it.

The player or team with the highest Initiative chooses one unit and moves it. Movement alternates between sides until all units on the map have moved or chosen to remain stationary.

If at any stage during the Movement Phase a player or team has twice as many units left to move as the opposing sides, that player or team should move two units at his next opportunity. If one side has three times as many units left to move, that player or team should move three units, and so on. The player or team with the lowest Initiative will always move the first unit, and the player or team with the highest Initiative will always move one of its units last. Where possible, each team should move an identical number of craft in each Movement Phase. If each team has a different number of craft left to move, the players should determine the maximum number of turns required for the team with the lowest Initiative to move all its units. The teams with larger numbers of vessels should then move an appropriate number of units each turn to move an equal number of turns, starting with the largest group of craft. (See example below.)

Players should only move units that can expend Thrust Points. Units that cannot expend Thrust Points, such as space stations, Out-of-Control units, or units suffering from serious engine damage, may not move to give the owning side an advantage. At the end of the Movement Phase, any Out-of-Control units should move straight forward a number of hexes equal to their velocity. All other units incapable of expending Thrust Points continue to move straight forward at their current velocity. Resolve any potential collisions immediately.

If ordered to abandon ship in the previous End Phase, the crew will leave the vessel using escape pods and lifeboats at the beginning of the Movement Phase. (See **Optional Rules**, p. 36.)

Three teams play a game of **BattleSpace**. Each team rolls 2D6 for Initiative. Team A rolls a 7, Team B rolls a 10, and Team C rolls a 4. Because Team C rolled the lowest Initiative, Team C must move one of its units first, followed by Team A, and then Team B.

Team A has 3 units, Team B has 4, and Team C has 2. Normally, each team would move only one unit at a time, but the differing numbers of craft mean that the teams must move different numbers of units. Team C (who lost the Initiative) must move 1 craft first. Team A, with the second lowest Initiative, must move at least 1 craft next. However, Team A's 3 craft do not divide equally between two sets of nominations (the minimum number of turns it will take for Team C to nominate all of its movement), and so they move 2 units in their first nomination. After Team A moves its 2 units, Team B also moves 2 units (half of its total). The second round of nominations begins with the movement of Team C's second (and last) unit. Team A then moves its last unit, and Team B moves its remaining 2 units.

The teams use an identical procedure to nominate firing, then resolve the attacks after all teams have nominated their targets. The order of resolution is unimportant (because all damage occurs at the same time), but resolve all attacks from one craft before starting those of another. After the players remove all destroyed craft from the mapsheet, a new turn begins and each team rolls dice to determine Initiative.

COMBAT PHASE

In the Combat Phase, units declare any attacks and then resolve them.

The player or team with the lowest Initiative should choose a unit and declare all the attacks that unit will make according to the rules in the **Combat** section, p. 14. This declaration should specify the targets to be fired upon and the weapons bays to be used in the attack. The player or team with the next lowest Initiative then selects a unit and declares the targets it will attack. Declaration rotates between the teams until the players have nominated attacks for all units.

If at any stage a player or team has twice as many units remaining to declare fire as the opposing sides, that player or team should declare the attacks of two units in the next nomination. If one side has three times as many units, it should declare the attacks of three units, and so on. The player or team with the lowest Initiative will always nominate the first attack, and the player or team with the highest Initiative will always declare the attack of its units last. Once a player nominates the targets for a unit's attack, that unit must fire at the selected targets. The player may not change the target of that unit's attacks, even if other weapons fire destroys the target before the player's unit fires.

After nominating the attacks for all units, resolve the attacks unit by unit. Resolve all fire from one unit before resolving another unit's attacks. Because all combat is simultaneous, with damage taking effect in the End Phase, a craft destroyed by fire from a unit with higher Initiative in the current turn may still carry out any nominated attacks.

END PHASE

In the End Phase, players apply any damage and determine its effects, attempt to regain control of Out-of-Control units, and may order crews to abandon ship.

After all units have resolved their attacks, damage takes effect. Remove any destroyed units from the mapsheet.

All Out-of-Control units may attempt to regain control. (See **Control Rolls** in **Movement**, p. 12.) A successful Control Roll will end the effects of being Out-of-Control. A failed roll means the craft continues to suffer the effects of being Out-of-Control. The player may attempt another Control Roll in the next End Phase.

A player may give orders for a crew to abandon ship. Under those circumstances, escape pods and lifeboats eject at the beginning of the next Movement Phase.

CLAN RULES OF ENGAGEMENT

The idea of massed naval engagements is somewhat new to the Clans. Their society, though placing great emphasis on warriors, has historically favored the ground-based military. Clan military philosophy decreed that only ground troops could seize and hold an objective. The Clans' system of honor and love of battle meant they always preferred a stand-up fight between 'Mechs and infantry. Only rarely did a commander appreciate that the best way

to prevent a challenge to possession was to prevent the enemy force from arriving at its destination. The Inner Sphere forces, drawing on the experience provided by more than two and a half centuries of continuous war, held no such reservations.

The Clans did not lose any DropShips in their invasion into the Inner Sphere, mainly because the Clans mounted better arms and armor than their Inner Sphere counterparts, but the Inner Sphere's willingness to attack what the Clans considered essentially non-combatant craft forced the invaders to radically rethink their aerospace tactical procedures. One immediate result was that the Clans assigned more aerospace fighters to escort their DropShips insystem. Commanders also began assigning AeroStars to hunt down and destroy potential aerospace threats. The most important result of rethinking their aerospace strategy gave the Clans a new set of rules governing aerospace engagements.

Rule 1. Once a Clan unit attacks an enemy unit, no other Clan unit may engage that target. Only if the original Clan attacker is destroyed, or under one of the conditions laid out in Rules 2 or 3 can another unit attack that target.

Rule 2. A Clan unit may engage any unit that has fired on it, even if this contradicts Rule 1.

Rule 3. Attacks against capital ships are exempt from the above rules. Any number of fighter units or DropShips can engage a single WarShip.

Rule 4. A Clan unit will, by preference and ideology, always engage a single enemy unit until that unit is destroyed or Rule 2 occurs. Attacking more than one target simultaneously changes the nature of the engagement from a mass of one-on-one duels to a huge "grand melee" (no restrictions). Few Clan commanders are willing to open a battle up to a grand melee. The punishment meted out to warriors who initiate such melees (if they survive) is severe.

Rule 5. If a Clan AeroStar engages a smaller fighter unit, it will use offensive firepower appropriate to the number of fighters in the smaller unit. In other words, the Clan unit will fire as if it had as many fighters (rows of armor) as the target unit. For example, if an Inner Sphere unit has only four fighters, a Clan unit will fight as if it had only four fighters. Its firepower will still be greater, but the odds will go from the standard 10 to 6 (1 Star vs. 1 squadron) to 1 fighter vs. 1 fighter.

Rule 5 applies to most Clan engagements, but does not apply in some very specific situations. For example, the forces prosecuting a Trial of Annihilation will use maximum force to eliminate the tainted enemy; this trial represents a battle of total destruction. Units engaged in hunting bandits may also use maximum force, because they are fighting honorless scum.

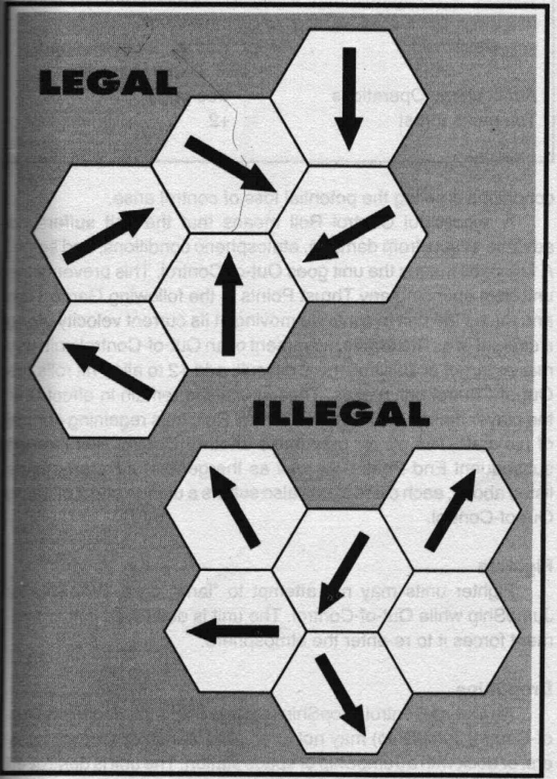
Clan pilots who disobey any of the above rules and survive the battle receive punishment ranging from a reprimand to execution. The specific punishment depends on the attitude held by the offender's commander and Clan.

MOVEMENT

In the frictionless vacuum of space, a moving craft will continue in a straight line at a constant speed unless acted upon by a force. The application of force may result in changes in velocity or direction. This force can be natural, such as the gravitational pull of a star or planet, or, as is more relevant to this game, can result from thrust applied by a craft's engines.

FACING

Every unit, be it a DropShip, squadron of fighters, JumpShip, and so on, must face one of the six sides of the hex in which it is placed. This facing (the direction in which the unit's nose is pointing) not only determines the direction in which the unit moves, but also determines where the unit can fire, and where attacks against that unit will strike. In the basic **BattleSpace** rules, a unit's heading (the direction of the unit's motion) and facing are the same. The **Advanced Movement** rules, p. 30 in **Optional Rules,** describe additional rules for those players who prefer to use separate headings and facings.



THRUST POINTS

Every unit in the game can use thrust to a greater or lesser degree. The thrust of space stations and JumpShips is used only for station-keeping, and so these craft are effectively immobile (see **JumpShip/WarShip Construction**, p. 68, for more information). Other craft can use varying amounts of thrust to accelerate, decelerate, or change direction. **BattleSpace** uses the term Thrust Point to indicate the thrust available to a unit. One Thrust Point is equal to approximately 5 meters per second per second acceleration (0.5 G).

Each unit has two thrust values. Safe Thrust is the amount of thrust, or number of Thrust Points, that the unit can expend without suffering any adverse effects. Maximum Thrust is the total number of Thrust Points that the unit can expend in one Game Turn (60 seconds), and is equal to the Safe Thrust plus 50 percent. Spending Thrust Points in excess of the Safe Thrust value degrades the unit's handling, making the unit harder to control if damaged (see **Control Rolls**, p. 12). The increased vibration created by operating the engines beyond "safe" limits also makes it harder to target enemy units accurately (see **Combat**, p. 17).

USING THRUST POINTS

Each moving unit will travel at a constant speed, in a constant direction, using thrust from the engines only to change velocity or heading. At either the beginning or the end of the unit's movement, it may expend Thrust Points to increase or decrease velocity. Thrust Points used to change velocity at the beginning of the movement affects the number of hexes the unit can move in that turn (see below). Because each moving unit travels at a constant speed, *Thrust Points used to change velocity at the end of the* movement will affect the starting velocity of the next turn.

Each Thrust Point used will increase or decrease the unit's velocity by 1. Units in **BattleSpace** have no maximum velocity, but the difficulty of changing heading at high speed places a practical limit on operational velocity. A unit's velocity may be reduced to 0, but it is not possible to reduce the velocity below zero (to a negative value): a unit may not move backward.

Whether or not a unit accelerates or decelerates at the beginning of the Movement Phase, the craft must move a number of hexes equal to the unit's velocity. Any remaining Thrust Points may be used to change the unit's heading by 60 degrees (one hexside) any time during movement . The Thrust Point Cost to turn depends on the velocity of the unit (see Turning Cost Table, p. 12), though damage to the unit will also modify this cost (see **Critical Damage,** p. 22 in **Combat**). If a unit does not have enough thrust to turn at its current velocity, it may not turn unless it slows to a speed where its current thrust is sufficient to turn the craft. Fighter units may turn as many hex-sides in a hex as their movement allows. DropShips may turn a maximum of 2 hex-sides in any hex. JumpShips and WarShips may turn a maximum of 1 hex side in any

TURNING COST TABLE

Current Velocity	Thrust Point Cost
0	1
1	1
2	1
3	2
4	2
5	2
6	3
7	3
8	4
9	4
10	5
11	6
12	7
13	8
14	9
15	10
16	11
17	12
18	13
19	14
20	15
21	16
22	17
23	18
24	19
25	20
26	21
27	22
28	23
29	24
30	25

hex.

The first movement of any unit (unless at Velocity 0) must be to move forward 1 hex. Craft at Velocity 0 may turn as many hex-sides in a single hex as the player wishes, at a cost of 1 Thrust Point per hex-side.

STACKING LIMIT

Because **BattleSpace** takes place in the infinite reaches of space, the units have no stacking limit. This means that any number of units may occupy the same hex.

CONTROL ROLLS

Some situations or types of damage may cause a unit to handle poorly, crash, or generally function (or malfunction) in a way that makes it difficult for the pilot to control the craft. **BattleSpace** uses Control Rolls (a dice roll result compared to a specific (target) number to decide whether the pilot of the craft in question maintains control) to represent these difficult and dangerous situations.

MAKING CONTROL ROLLS

Any time the pilot is in a situation that requires a Control Roll (see the **Damage** and **Atmospheric Operations** sections on pp. 17 and 32), the player rolls 2D6. If the result is equal to or greater than 6, the pilot remains in control of the craft. Modify the Target Number of 6 if the unit is damaged (consult the table below; see also **Damage**, p. 17), using more thrust than is safe, or operating in atmosphere (see **Space/Atmosphere Interface**, p.32). Make any required Control Rolls in the End Phase of the turn in which the conditions creating the potential loss of control arise.

CONTROL ROLL MODIFIER TABLE

Note: Base Target Number 6

Condition	Modifier
Bridge	
Damage	+1 per crossed-out box
Destroyed	Add +1 to Bridge Damage modifier
Life Support	
Damage	+1 for second and each subsequent crossed-out box
Destroyed	Add +1 to Life Support Damage modifier
Atmospheric Operations	See page 32.
Too much thrust	+2

A successful Control Roll means that the unit suffers no adverse effects from damage, atmospheric conditions, and so on. A failed roll means the unit goes Out-of-Control. This prevents the unit from spending any Thrust Points in the following Game Turn and forces the unit to continue moving at its current velocity along a straight line. The erratic movement of an Out-of-Control unit also makes target acquisition more difficult; add +2 to all to-hit rolls the Out-of-Control unit makes. These penalties remain in effect until the player makes a successful Control Roll, thus regaining control of his craft. The player may make another Control Roll in each subsequent End Phase. As well as the general adverse effects listed above, each class of unit also suffers a unique effect of being Out-of-Control.

Fighters

Fighter units may not attempt to "land" on a DropShip or JumpShip while Out-of-Control. The unit is destroyed if its movement forces it to re-enter the atmosphere.

DropShips

An Out-of-Control DropShip (or DropShip attached to an Out-of-Control JumpShip) may not attempt to launch or recover fighters, or dock with a JumpShip or space station. The unit is destroyed if its movement forces it to re-enter the atmosphere.

JumpShips/WarShips

An Out-of-Control JumpShip or WarShip may not launch or recover fighters, launch or dock DropShips, dock with a space station, deploy a jump sail, or attempt a jump. Any jump sail deployed when the ship goes Out-of-Control is destroyed. Docked DropShips may attempt to disembark from an Out-of-Control JumpShip/WarShip, but must immediately make a Control Roll (this is an exception to the usual requirements for Control Rolls). On a failed roll, the launching unit also goes Out-of-Control. The unit is destroyed if its movement forces it to re-enter the atmosphere.

SPECIAL ACTIONS

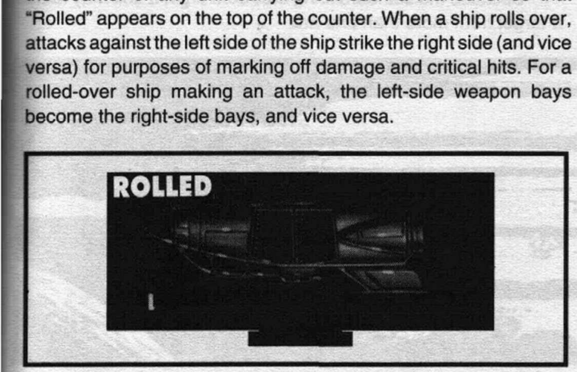
At the beginning of a unit's movement, the player controlling the unit may announce that the unit is carrying out a Special Action. The basic **BattleSpace** rules allow the special maneuvers of evading, rolling over, and changing formation. The additional special actions listed below are optional or campaign rules, and are described in detail in the appropriate section. Space stations may not use any of the special actions listed except for **Launch/ Recover Fighters.**

EVADE (ALL CRAFT)

Any unit may evade by traveling an erratic path and constantly varying its velocity. This maneuver makes it hard for an attacker to hit an evading craft. However, the constant changes of heading and velocity also affect the evading craft's ability to fire. See **Making the Attack**, p. 17 in **Combat**, for more information. A craft ordered to evade must spend at least 1 Thrust Point in the turn in which it evades to receive the advantages of the maneuver.

ROLL-OVER (ALL CRAFT EXCEPT FIGHTERS)

DropShips, JumpShips, and WarShips sometimes roll along their horizontal axis. This movement allows them to effectively reverse their right and left sides, enabling them to shield a damaged side or bring undamaged weapons to bear on a target. Invert the counter of any unit carrying out such a maneuver so that "Rolled" appears on the top of the counter. When a ship rolls over, attacks against the left side of the ship strike the right side (and vice versa) for purposes of marking off damage and critical hits. For a rolled-over ship making an attack, the left-side weapon bays become the right-side bays, and vice versa.



CHANGE FORMATION (FIGHTERS ONLY)

Fighter units may change their formation between tight and loose, which affects their ability to fight. In tight formation, the fighters are close together and can concentrate all their fire on a single target (or targets). A unit in loose formation is harder to hit, but only part of the unit will be able to attack. See **Fighters**, p. 16 in **Combat**, for more information on the effects of formations.

HOVER (SPHEROID DROPSHIPS ONLY)

Their unique construction allows spheroid DropShips to hover in atmosphere. See **Atmospheric Operations**, p. 32, for details on this optional rule.

DOCKING (ALL CRAFT EXCEPT FIGHTERS)

All units except fighters may attempt to dock with another unit in the same hex. The target of the docking attempt must have the same heading and velocity as the maneuvering unit. A boarding action may follow docking. For more information see **Boarding Actions**, p. 37 in **Optional Rules**.

LAUNCH/RECOVER (LARGE CRAFT/STATIONS)

During the Movement Phase, a unit may launch or recover fighters or small craft in the same hex. The player controlling the unit should issue this order to the unit and follow the procedures and restrictions outlined in **Launching and Recovering Small Craft**, p. 50 in **Campaign Operations**.

LANDING

Landing on a planet requires all the skill and concentration a ship's crew has to offer, and must prove hazardous. Any unit in a Ground hex with a Velocity of 0 may attempt to land. An order to land cannot be carried out outside a Ground hex, or by units with a Velocity greater than 0. Details of the landing procedure appear in **Planetary Landing**, p. 53 of **Campaign Operations**.

JUMP (JUMPSHIPS/WARSHIPS ONLY)

Any JumpShip or WarShip that has successfully made the navigation calculations for a jump and programmed them into the K-F drive may execute this order. This order initiates the jump program and commits the craft to the jump. The program will execute shortly thereafter, and the JumpShip will enter hyperspace. See **Hyperspace Travel**, p. 42 in **Campaign Operations**, for the exact procedure for entering hyperspace.

COMBAT

The goal of ships fighting in **BattleSpace** is to kill any enemy units or render them ineffective (referred to as a mission kill). To accomplish this, units attempt to maneuver into the most advantageous firing position while limiting the possibilities for return fire. The primary combatants are usually fighter units and DropShips, though some engagements may include JumpShips, WarShips and space stations. The primary emphasis of **BattleSpace** combat is on engagements in space, usually near-orbit, but may include atmospheric operations and even ground-attack missions. This section provides the rules for conducting space combat. The rules for atmospheric and ground-attack combat appear in the **Optional Rules** section, p.30.

At the beginning of combat, the players declare a target for each unit's attack. In the basic **BattleSpace** rules, units automatically detect all other units on the mapsheet. Then, taking into consideration their unit's firing arcs as related to the target, and their unit's capacity for dissipating the heat generated by firing its weapons, the players determine what weapons or weapons bays their unit will fire, and the angle of attack. The player makes a to-hit roll to make the attack and determine whether it hits the target, then determines the damage inflicted by the attack. Because all damage takes effect simultaneously, every unit that declares an attack will make that attack before taking damage.

DETECTION

The standard **BattleSpace** rules assume that because of electromagnetic emissions (usually radio traffic and ships' highly visible drive exhaust) and active sensors (mostly radar), all units automatically detect any craft on the mapsheet. Damage to a craft may reduce the range at which it can detect and engage other units (see **Damage**, p. 17) or may prevent engagements altogether. See the **Campaign Operations** section for advanced detection rules that allow some units to remain undetected.

WEAPONS FIRE/ FIRING ARCS

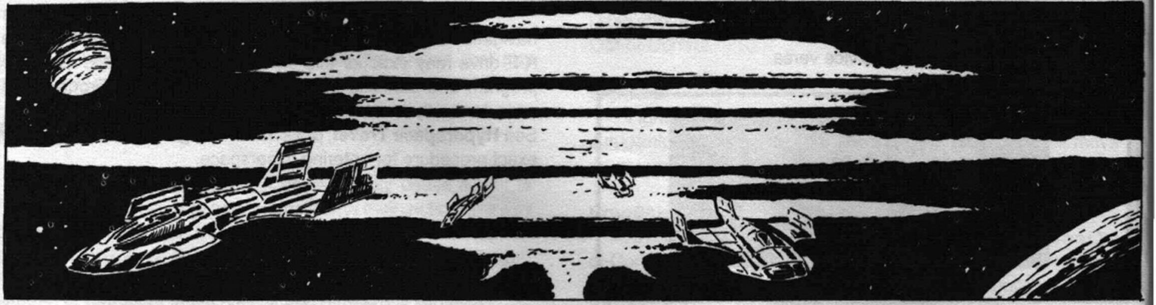
Each unit has an array of weapons, usually an assortment of energy (laser and PPC) and ballistic (autocannon, Gauss, and missile) types. Weapons bays, systems that group together similar weapons, simplify targeting and fire-control. Most ships use some or all of eight standard types of weapons bay: PPC, autocannon, LRM, SRM, laser, LB-X autocannon, pulse laser, and point-defense weapons. The WarShip section below provides rules for the naval bays of WarShips. Fighter units do not have weapons bays in the same sense as other units; in effect, a fighter unit acts as a weapons bay when attacking. See **Fighters**, p. 16, for specific rules for fighter combat.

BattleSpace weapons group their damage together into a single value called a Fire Factor. Unlike in **AeroTech** or **BattleTech**, where each weapon has an individual Damage Value that produces the same damage at any range, four different numbers represent the capabilities of each bay, describing the Fire Factors (damage) for that bay at short, medium, long, and extreme ranges (see **Range**, p. 16). If the Fire Factor for a particular range bracket is 0, that bay cannot engage targets at that range.

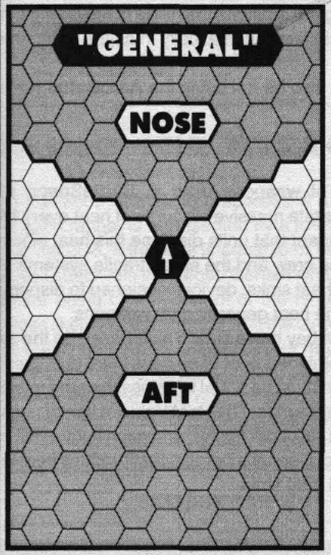
Nearly all craft in the game make use of the standard weapons bays, which have relatively small Fire Factors. In addition to standard bays, WarShips carry capital ship bays, bays containing huge naval weapons designed to engage very large targets. The Fire Factors of capital ship bays, called Capital Ship Factors, are generally much larger than those of standard bays.

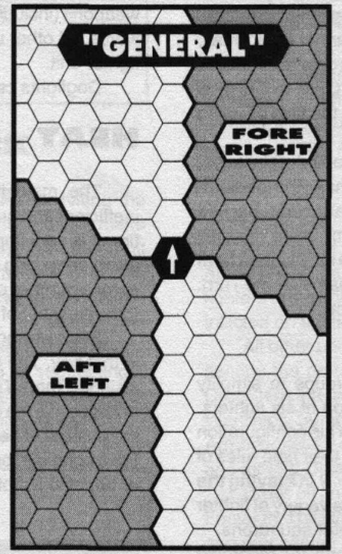
The area into which each weapons bay can fire, called a firing arc (see the diagram below), remains fixed relative to the craft's nose, but changes as the unit moves and turns. Each unit type uses slightly different firing arcs. Fighters may fire into the fore and aft arcs, and also have special "wing" arcs. Fighters cannot fire sideways. DropShip weapon bays may use any of the standard firing arcs, as can those of WarShips and space stations. WarShips have an additional "broadside" firing arc.

Because the standard firing arcs converge, a unit may attack a target from more than one arc.



• FIRING ARCS •


"GENERAL"
NOSE
AFT


"GENERAL"
FORE RIGHT
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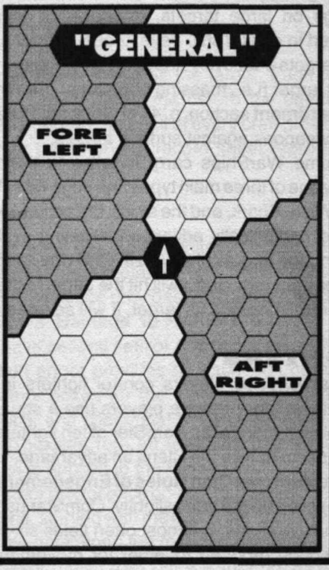
"GENERAL"
FORE LEFT
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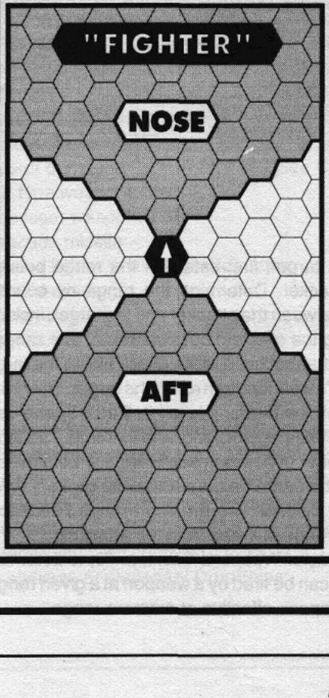
"FIGHTER"
NOSE
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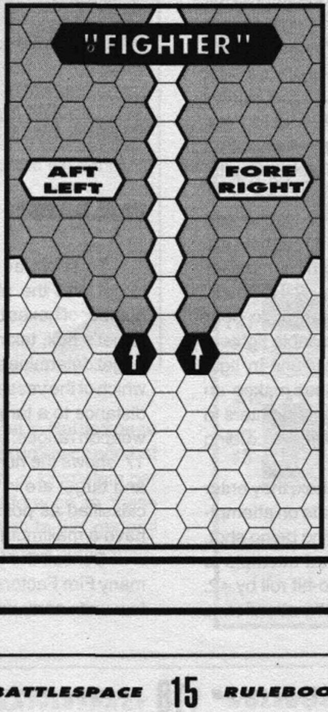
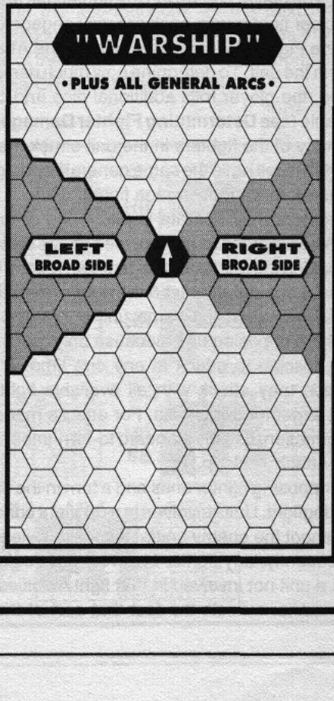

"FIGHTER"
AFT LEFT
FORE RIGHT


"WARSHIP"
• PLUS ALL GENERAL ARCS •
LEFT BROAD SIDE
RIGHT BROAD SIDE

WARSHIPS

The combat JumpShips known as WarShips first employed during the Star League era, currently fielded by the Clans, and in development in the Inner Sphere, carry huge naval weapons weighing many thousands of tons and capable of inflicting serious damage on large targets, in space or on a planet's surface. Mounted in capital ship bays, these weapons cannot track small, agile targets effectively; they can only engage targets of DropShip size or larger (i.e., massing 500+ tons). See the **Orbit to Surface Bombardment** section, p. 41 of **Optional Rules**, for rules on using these weapons against surface targets.

Some WarShips carry missiles in their capital ship bays, usually one of three main types: the huge Killer Whale, the medium-sized White Shark, and the small, but accurate Barracuda. Backed by a technologically advanced targeting system, these missiles may engage targets of any size. Only one missile may launch from each bay per turn, and it will hit the target in that same Game Turn. If the missile misses its target, it will self-destruct.

FIGHTERS

BattleSpace players control fighters in groups to simplify operations. Inner Sphere players use a squadron of six fighters. Clan players control an AeroStar of ten fighters. This configuration would seem to give the Clans an advantage, but their rigid rules of engagement (see **Clan Rules of Engagement**, p. 9 in **Playing the Game**) even up the odds slightly. ComStar uses a variety of fighter unit configurations, but most often fields six-fighter squadrons.

Though grouped together for movement and for recording damage to their armor, each fighter in the unit makes a separate attack. The player controlling the fighter unit makes one Attack Roll per arc per fighter unit; each arc may engage only a single enemy unit. The Fighter Record Sheet shows the Attack Values for each fighter in the unit. To determine how much damage the unit's attack inflicted, the player rolls additional dice and consults the Fighter Hits Table (see **Determining Fighter Damage**, p. 18) to determine how many of the fighters in the unit struck the target. Assume all fighters in a unit have the same general heading and facing. Capital ship weapons cannot engage fighter units.

Fighters may operate in two types of formation, loose and tight. When in loose formation, the fighters disperse throughout the hex, making the unit harder to damage. Modify the to-hit number for all attacks against a fighter unit in loose formation by +2. However, in loose formation the same unit brings less firepower to bear against an opposing unit, because only half the available fighters are in position to attack at any one time. A fighter unit in tight formation may attack with all available fighters, but makes an easier target for opponents. For attacks made against fighters in tight formation, use the standard to-hit number, modified according to the Attack Table, p. 17.

If opposing fighter units end a turn in the same hex, they enter into a dogfight. Units involved in a dogfight concentrate on attempting to shoot the enemy unit(s) involved while avoiding being shot. Consequently, any fighter involved in a dogfight that attempts to attack a unit not involved in that fight modifies its to-hit roll by +2. This modifier reflects the fact that part of the pilot's attention is devoted to avoiding the enemy dogfighters. Other fighters in the dogfight modify their to-hit numbers by –2 against a unit firing at a target outside the dogfight, as long as the unit is distracted. Assume all fighter units involved in a dogfight are in tight formation, though the swirling mass of fighters allows the units to use all their weapons (including aft) against other units in the dogfight. In other words, all other units are automatically in all the firing arcs of the fighter unit.

Dogfights can also be run using the **AeroBattle** rules, p. 80.

HEAT

The majority of weapons used in **BattleSpace** are very inefficient and generate massive amounts of heat every time they fire. It is very important that units disperse this heat efficiently, to avoid damaging the crew and the ship's fragile systems. All units carry a number of heat sinks, devices designed to disperse some (but rarely all) of the heat generated by weapons.

Each weapons bay has a Heat Value based on the weapons in that bay. The combined heat of all bays used during combat in a single Game Turn must be equal to or less than the total number of heat sinks the unit carries. The Heat Value of fighter units equals the number of heat sinks per fighter, and each fighter unit can only fire a combination of weapons per turn that produce heat less than or equal to its total heat sinks.

A DropShip has 20 heat sinks and eight weapons bays. The weapons bays generate the following heat: 6, 6, 5, 4, 4, 3, 2, and 1. The DropShip may fire any combination of the bays as long as the total heat remains equal to or less than 20. For example, the DropShip could fire weapons producing heat of 6, 6, 5 and 3 (20) or 6, 5, 3, 2 and 1 (17), but could not fire weapons producing heat of 6, 6, 5 and 4 (21) in one turn.

RANGE

To shoot at a target, first establish the range between the target and the attacker. Determine the range by counting the number of hexes between the attacker and the target, including the target's hex, taking the shortest possible route. The range to the target determines the likelihood of the attack hitting the target, and which of the vessel's weapons can reach the target. The greater the distance to a target, the harder it is to hit. **BattleSpace** uses four weapon ranges: short, medium, long, and extreme. The table on p. 17 shows the number of hexes in each range. If both the attacker and target are in the same hex, treat the Range as 1. Weapons classified as point defense use the short-range Fire Factor, but have a maximum range of 1 hex from the attacker.

Consult the Master Weapons Table, p. 70, to determine how many Fire Factors can be fired by a weapon at a given range. Very few units carry weapons effective at extreme range.

RANGE TABLE

Range	Number of Hexes
Short	1-6
Medium	7–12
Long	13–20
Extreme	21–25
Out of Range	26+

MAKING THE ATTACK

The likelihood of making a successful attack, or hitting the target at each range, is represented by a to-hit number. To make an attack, roll 2D6. If the total is equal to or higher than the to-hit number, the attack hits the target. Certain circumstances, such as the attacker being Out-of-Control or the target evading, make it more or less likely that the attack will hit the target. The Attack Table provides to-hit numbers for firing at all four ranges, followed by to-hit modifiers for various circumstances. Adding or subtracting a modifier to or from the to-hit number makes the target easier or more difficult to hit. All to-hit modifiers are cumulative.

ATTACK TABLE

Range	To-Hit Number
Short	6
Medium	8
Long	10
Extreme	12

Situation	To-Hit Modifier
Attacker used more thrust than was safe	+2
Attacker Out-of-Control	+2
Attacker damaged	*See* **Critical Hit** section
LB-X type weapons bay	–1
Pulse laser weapons bay	–2
Barracuda missile	–2
Target is fighter unit in loose formation	+2
Target is evading	+2
Attacker is evading	+2
Target is at 0 velocity	–2

Unlike in **BattleTech**, the speed of the target in **BattleSpace** has little effect on to-hit numbers. All craft involved in space combat are traveling at thousands or tens-of-thousands of kilometers per hour: slight changes of speed make little difference to these vessels' targeting computers. The one exception to this general rule is when firing at a craft with a Velocity of 0, usually JumpShips, space stations, or stationary DropShips.

Bays in the same firing arc may engage different targets. However, each bay may only engage one target per turn. Make separate Attack Rolls for each weapons bay, even if several bays are attacking the same target.

DAMAGE

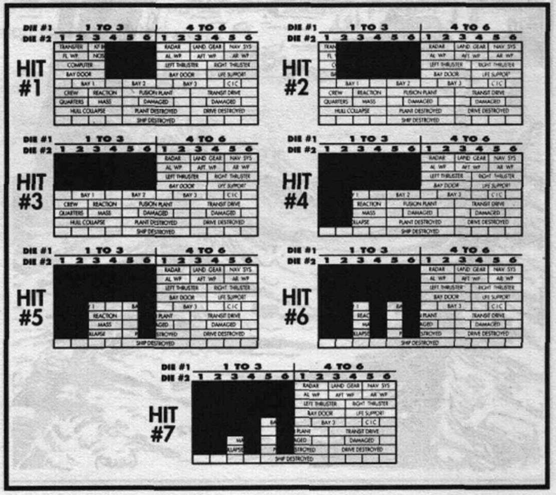
Every successful attack damages the target. Each unit can withstand a certain amount of damage before the damage becomes critical. Armor bonded to the hull of every craft provides this resilience. The Armor boxes on the record sheet represent this protection.

ARMOR

Because of their small size, fighter units have only one set of Armor boxes that represents the total damage resistance of all the fighters in the unit. **BattleSpace** provides special rules for damage inflicted on fighters (see **Damage to Fighters**, p.19).

All other units have several sets of Armor boxes, each representing the protection armor provides on each side of the craft. DropShips have Armor boxes for the fore, aft, and both sides. WarShips, JumpShips, and space stations use separate sets of Armor boxes for each hexside; fore, aft, fore-right, fore-left, aft-right and aft-left. Dmamge is applied to the facing hit.

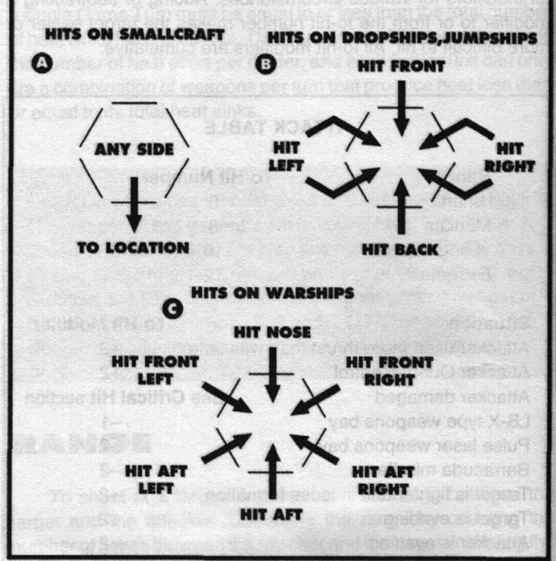
Cross off one Armor box for each point of damage from the Fire Factor that hits the unit, starting with the box in the upper left corner and proceeding to the right along the row. For example, a unit hit by a 4-point Fire Factor must cross out 4 Armor boxes from the appropriate side. After crossing out all boxes in that row, mark additional damage in the left-hand box on the next row, then proceed to the right along that row. Apply any damage that occurs after the destruction of the last Armor box to the appropriate Critical Damage section (see **Critical Damage**, p. 20).



SALVAGE
309

APPLYING DAMAGE

To determine the side damaged by a successful attack, draw a straight line (or place a straightedge) between the center of the hexes occupied by the attacker and the target. Apply the damage to the side of the vessel facing the hex-side crossed by that line. For example, if the line enters the target's hex through the rear hex-side, the target takes damage to the aft section. On large units that have six armor facings, such as space stations, JumpShips, or WarShips, apply the damage directly to the hex-side indicated. Because DropShips have only four armor facings, apply damage from a shot entering through either the fore or aft sides of the hex occupied by the DropShip to the nose or aft armor of the unit. Apply any damage that enters the target hex through a side hex (including fore left and right or aft left and right) to the appropriate side. If the shot enters the target's hex between two hex-sides (in a corner), the target may choose the side the shot hits. If an attacker can make multiple shots against a target, all attacks hit the same armor facing.


HITS ON SMALLCRAFT
A
ANY SIDE
TO LOCATION
HITS ON DROPSHIPS,JUMPSHIPS
B
HIT FRONT
HIT LEFT
HIT RIGHT
HIT BACK
HITS ON WARSHIPS
C
HIT NOSE
HIT FRONT LEFT
HIT FRONT RIGHT
HIT AFT LEFT
HIT AFT RIGHT
HIT AFT

As they have no "sides," fighter units take damage according to a special rule (see below).

DETERMINING FIGHTER DAMAGE

When a fighter unit attack hits a target, the player for the attacking unit makes a second 2D6 roll for each arc fired on and consults the Fighter Hits Table on p. 19, cross-referencing the result of the roll with the number of fighters remaining in the attacking unit. This number is the number of fighters whose attacks hit and caused damage.

FIGHTER HITS TABLE

Number of Fighters	Die Roll Result 2	3	4	5	6	7	8	9	10	11	12
1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	2	2	2	2	2	2
3	1	1	1	1	2	2	2	3	3	3	3
4	1	1	1	2	2	2	3	3	3	4	4
5	1	1	2	2	3	3	3	4	4	5	5
6	1	1	2	2	3	3	4	4	5	5	6
7	1	2	2	3	3	4	4	5	5	6	7
8	1	2	3	4	4	5	5	6	6	7	8
9	1	2	3	4	4	5	5	6	7	8	9
10	1	2	3	4	5	5	6	7	8	9	10

Multiply the unit's base Attack Value (the Fire Factor for the ange to the target) for each arc fired in (consult the Attack Values Table on the record sheet) by the number of fighters that hit to determine the actual damage of the attack. The target will take this number of points of damage, either to the armor or the internal structure.

A unit of six SL-17 *Shilone* medium fighters attack a *Union* class DropShip. They approach the target head on. Because the *Shilone* has 20 heat sinks, each fighter can fire the weapons of both wings and the nose (Fire Factors of 14 and 3 each, respectively). The DropShip is at short range. According to the fighter's Attack Value Table on the record sheet, each fighter could inflict 1 point of damage with the weapons of each wing, and 2 points with the weapons mounted on the nose. The player makes 3 to-hit rolls for the unit, one for each arc from which the unit fired, and is lucky. All attacks hit. The player controlling the *Shilone*s then rolls a second 2D6 for each arc to determine the number of fighters whose individual attacks struck the DropShip. The first result, for the left wing, is a 9. Cross-referencing the die roll result of 9 with the number of fighters in the unit (6) on the Fighter Hits Table, the player finds that 4 attacks hit, for a total of 4 points of damage (4 x 1 Fire Factor). The second roll, for the nose weapons, is a 7, which indicates 3 hits, for a total of 6 points of damage (3 x 2 Fire Factors). The last result is a 4, and so only 2 fighters hit, producing an additional 2 points of damage (2 x 1 Fire Factor). The total damage inflicted is a respectable 12 points. One side of the DropShip loses most of its armor, but now it is the DropShip's turn to fight back.

The Clan rules of engagement will limit the number of fighters actively involved in any attack. In honorable combat, Clan units will only use their maximum strength against targets of equal or greater size. A Clan unit engaging a smaller unit will use only as many fighters as are in the smaller unit. (See **Clan Rules of Engagement**, p. 9.)

DAMAGE TO FIGHTERS

Unlike other units, the combat effectiveness of a fighter unit degrades for each row of Armor boxes crossed off. A fighter unit is considered destroyed for game purposes when no Armor boxes remain unmarked.

The number of fighters in a unit determines the number of rows of armor with which each unit begins the game. A Clan Star can have a maximum of 10 rows of armor (10 fighters); an Inner Sphere squadron can have a maximum of 6 rows of Armor boxes (6 fighters). Divide the armor evenly between the rows. Place any short rows at the top.

A player with a unit consisting of 6 fighters with a total Armor Value of 30 would place 5 Armor Points on each row of Armor boxes. A player running a unit comprised of 6 fighters with 28 Armor boxes would place 5 points of armor on each of the bottom five rows, and 3 points on the top row.

Each unmarked armor row represents the combat readiness of one fighter, and affects the amount of damage a fighter unit can inflict. A fighter unit taking increasing damage suffers a steady reduction in its ability to inflict damage. See the **Determining Fighter Damage** section for more details.

> A full Squadron (6 rows of armor) will multiply the base damage for each arc fired on by 6. If the player crosses out all the Armor boxes on 3 rows, he is left with only 3 individual fighters to attack the target, and would multiply the base damage for the attack in each arc by 3. The fewer fighters left in the unit, the less damage the unit is likely to inflict on a target.

Each row crossed off represents the effective (but not always actual) destruction of an individual fighter. The **Campaign Operations** section, p. 50, provides a system for determining the actual status of each eliminated fighter. Though crossing off the final Armor box for a fighter unit means that that unit is destroyed for game purposes, this does not mean the individual fighters are destroyed, just that the unit ceases to exist as a cohesive fighting entity.

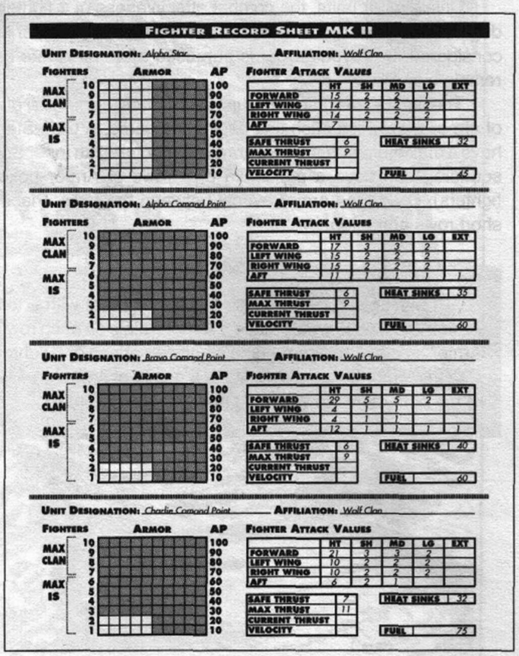
CRITICAL DAMAGE

When damage breaches an armor location (i.e., all Armo boxes for that location are crossed off), any subsequent damag to that *facing* is critical damage. Rather than applying the damag row-by-row, as for armor, divide any penetrating Fire Factors int 4-point groups. Apply each of these groups vertically to a randoml determined column of the Critical Damage box.

To determine the affected column, roll 1D6 twice. The first di roll result determines whether the damage will be marked on the le (1 to 3) or right (4 to 6) side of the Critical Damage box. The secon die roll result determines which column takes the critical damage For example, if the first die roll result is a 4 and the second die ro result is a 2, apply the damage to the second column of the left hand side of the Critical Damage Box.

The critical damage die roll results are also modified to tak into account the angle of attack and so shift the damage toward th attacked side. The modifier depends on the hex-side (or corne through which the shot entered the target's hex. Consult th diagram below and apply the modifier (either +2, 0, or –2) to eac roll as appropriate for the angle of attack. Treat a result of less tha 1 as 1, and a result greater than 6 as 6.

The Critical Damage box is laid out so that the left ha represents the forward of the craft and the right half represents th aft.


FIGHTER RECORD SHEET MK II

UNIT DESIGNATION: Alpha Star AFFILIATION: Wolf Clan

FIGHTER ATTACK VALUES

	HT	SH	MD	LG	EXT
FORWARD	15	2	2	1	
LEFT WING	14	2	2	2	
RIGHT WING	14	2	2	2	
AFT	7	1	1	1	

SAFE THRUST	6
MAX THRUST	9
CURRENT THRUST	
VELOCITY	

HEAT SINKS 32

FUEL 45

UNIT DESIGNATION: Alpha Comand Point AFFILIATION: Wolf Clan

FIGHTER ATTACK VALUES

	HT	SH	MD	LG	EXT
FORWARD	17	3	3	2	
LEFT WING	15	2	2	2	
RIGHT WING	15	2	2	2	
AFT	11	1	1	1	1

SAFE THRUST	6
MAX THRUST	9
CURRENT THRUST	
VELOCITY	

HEAT SINKS 35

FUEL 60

UNIT DESIGNATION: Bravo Comand Point AFFILIATION: Wolf Clan

FIGHTER ATTACK VALUES

	HT	SH	MD	LG	EXT
FORWARD	29	5	5	2	
LEFT WING	4	1	1		
RIGHT WING	4	1	1		
AFT	12	1	1	1	1

SAFE THRUST	6
MAX THRUST	9
CURRENT THRUST	
VELOCITY	

HEAT SINKS 40

FUEL 60

UNIT DESIGNATION: Charlie Comand Point AFFILIATION: Wolf Clan

FIGHTER ATTACK VALUES

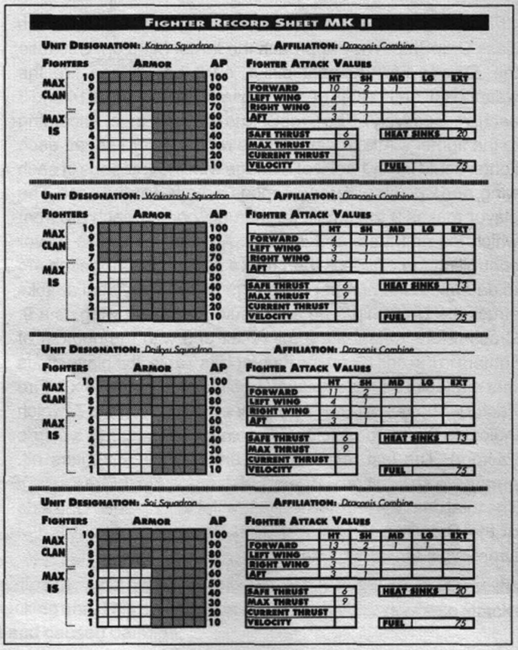
	HT	SH	MD	LG	EXT
FORWARD	21	3	3	2	
LEFT WING	10	2	2	2	
RIGHT WING	10	2	2	2	
AFT	6	2	1		

SAFE THRUST	7
MAX THRUST	11
CURRENT THRUST	
VELOCITY	

HEAT SINKS 32

FUEL 75

FIGHTERS
ARMOR
AP
MAX CLAN
MAX IS
10 9 8 7 6 5 4 3 2 1
100 90 80 70 60 50 40 30 20 10


FIGHTER RECORD SHEET MK II

UNIT DESIGNATION: Katana Squadron AFFILIATION: Draconis Combine

FIGHTER ATTACK VALUES

	HT	SH	MD	LG	EXT
FORWARD	10	2	1		
LEFT WING	4	1			
RIGHT WING	4	1			
AFT	3	1			

SAFE THRUST	6
MAX THRUST	9
CURRENT THRUST	
VELOCITY	

HEAT SINKS 20

FUEL 75

UNIT DESIGNATION: Wakazashi Squadron AFFILIATION: Draconis Combine

FIGHTER ATTACK VALUES

	HT	SH	MD	LG	EXT
FORWARD	4	1	1		
LEFT WING	3	1			
RIGHT WING	3	1			
AFT					

SAFE THRUST	6
MAX THRUST	9
CURRENT THRUST	
VELOCITY	

HEAT SINKS 13

FUEL 75

UNIT DESIGNATION: Daikyu Squadron AFFILIATION: Draconis Combine

FIGHTER ATTACK VALUES

	HT	SH	MD	LG	EXT
FORWARD	11	2	1		
LEFT WING	4	1			
RIGHT WING	4	1			
AFT	3	1			

SAFE THRUST	6
MAX THRUST	9
CURRENT THRUST	
VELOCITY	

HEAT SINKS 13

FUEL 75

UNIT DESIGNATION: Sai Squadron AFFILIATION: Draconis Combine

FIGHTER ATTACK VALUES

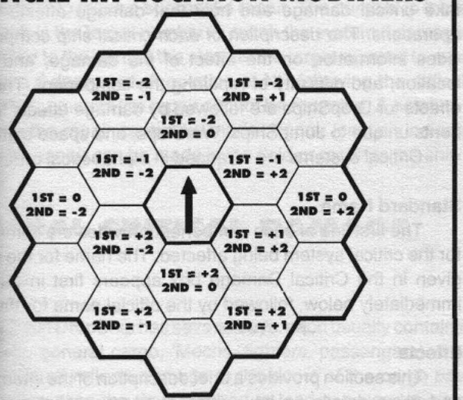
	HT	SH	MD	LG	EXT
FORWARD	13	2	1	1	
LEFT WING	3	1			
RIGHT WING	3	1			
AFT	3	1			

SAFE THRUST	6
MAX THRUST	9
CURRENT THRUST	
VELOCITY	

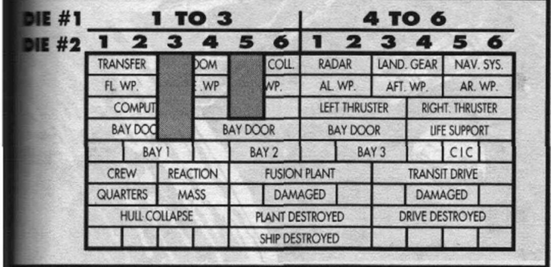
HEAT SINKS 20

FUEL 75

CRITICAL HIT LOCATION MODIFIERS



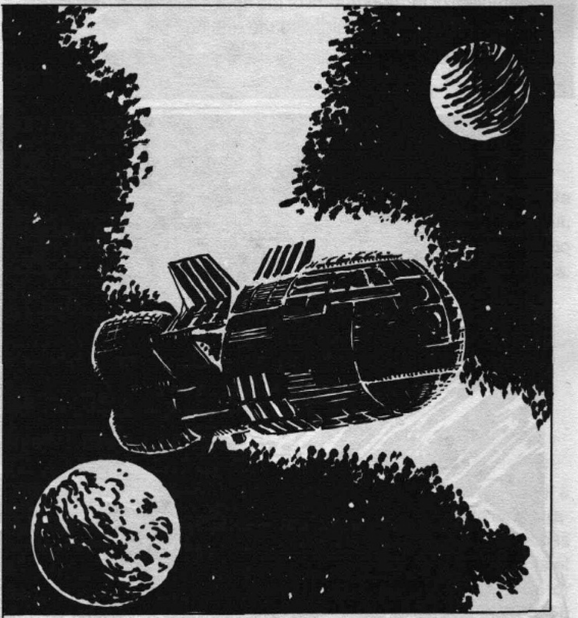
A DropShip is hit several times by another craft, and 7 points of damage penetrate the armor. The shot comes through the fore-right hex (–1, +2 modifier). Apply the damage in two groups, one of 4 points, and the other of 3. The player rolls 1D6 to determine the location of the first group of damage. He gets a result of 2, and subtracts –1. The final result of 1 indicates that the shot hit on the forward part of the ship (the left-hand side of the Critical Damage box). The player rolls a second 1D6 for a result of 1 and adds 2 to it, for a total of 3. This means that the first group of 4 points of damage is applied to Row 3 of the left-hand side of the Critical Damage Box. By marking off 4 points in a vertical column, the player sees that the attack damaged the KF-boom, the nose weapons, the computer, and the doors to Bay 1. The player repeats the procedure for the second group of 3 points of damage. Two 1D6 rolls produce results of 1 (modified to 0) and 3 (modified to 5), indicating that the damage should be applied to Column 5 of the left-hand section of the Critical Damage box. This time the docking collar, the fore-right weapons, and the bridge all sustain damage.



DIE #1	1 TO 3						4 TO 6					
DIE #2	1	2	3	4	5	6	1	2	3	4	5	6
	TRANSFER		▨	DOM	▨	COLL.	RADAR		LAND. GEAR		NAV. SYS.	
	FL. WP.		▨	.WP	▨	WP.	AL. WP.		AFT. WP.		AR. WP.	
	COMPUT		▨		▨		LEFT THRUSTER			RIGHT. THRUSTER		
	BAY DOO		▨	BAY DOOR			BAY DOOR			LIFE SUPPORT		
		BAY 1			BAY 2			BAY 3			CIC	
	CREW		REACTION		FUSION PLANT				TRANSIT DRIVE			
	QUARTERS		MASS			DAMAGED				DAMAGED		
	HULL COLLAPSE				PLANT DESTROYED				DRIVE DESTROYED			
					SHIP DESTROYED							

Apply the Group Damage Points (1–4 boxes) vertically down the indicated column, starting with the first undamaged box. Cross off one box for each point of damage. The section below lists the effects on the unit's functioning of each crossed-off box. The unit is destroyed if any damage penetrates to the Ship Destroyed row. Remove the counter of any destroyed units from the mapsheet during the End Phase.

The damage inflicted by capital ship bays is usually greater than that caused by standard bays. If a weapons bay (capital ship or otherwise) inflicts 12 or more points of critical damage, divide the damage into groups of 12 points each, and apply each group as a block 3 points wide and 4 points deep, centered on the appropriate column (determined as above). If the total damage cannot be divided into 12-point groups, apply as many groups of 12 points as possible, and apply the remaining damage using the standard rules. If part of the area to be damaged has already been marked off as damage, the damage that would be applied to those boxes simply dissipates. Because the 12-point groups of damage are *centered* on a column, very high or very low dice rolls could result in a portion of the damage missing any Critical Damage boxes. In this case, assume that the shot glanced off the target, and some of the weapons missed.



A *Lola* destroyer hits an *Overlord* class DropShip with the naval autocannons mounted in its left broadside and left rear. The damage strikes the previously undamaged *Overlord* on the nose, and a massive 58 points of damage penetrate the armor. This damage is applied in four 12-point groups, with the remaining damage applied as two 4-point columns and one column of 2 points. The first set of dice rolls have a modified result of 2 and 5, indicating a hit to Column 5 of the left-hand side of the Critical Damage Box. The second block of 12 points of damage also hits on the left-hand side, this time centered on Column 3. Four points of damage are wasted, as the critical damage they would cause overlaps with boxes already crossed out. The third block strikes Column 1, but because part of the area affected is outside the Critical Damage box, and part overlaps an area already destroyed, the block of damage only affects 4 boxes. The fourth block again strikes Column 1, this time wasting only 4 points. The fifth block of damage, a 4-point column, strikes Column 6, and the second 4-point column strikes Column 4. The last 2 points of damage are applied to Column 3. The DropShip has been wrecked, but its structure remains intact—for a few seconds. The destruction of three-quarters of the craft's fuel tanks results in a huge explosion, destroying the drifting hulk.

CRITICAL DAMAGE EFFECTS

The following section describes each part of a ship that may take critical damage and how that damage affects the ship's operations. The description of each critical ship component provides information on the effect of the damage, and the time location, and difficulty of repairing the component. The damage effects for DropShips are followed by damage effects for components unique to JumpShips, WarShips, and space stations.

Critical systems are arranged in alphabetical order.

Standard Name

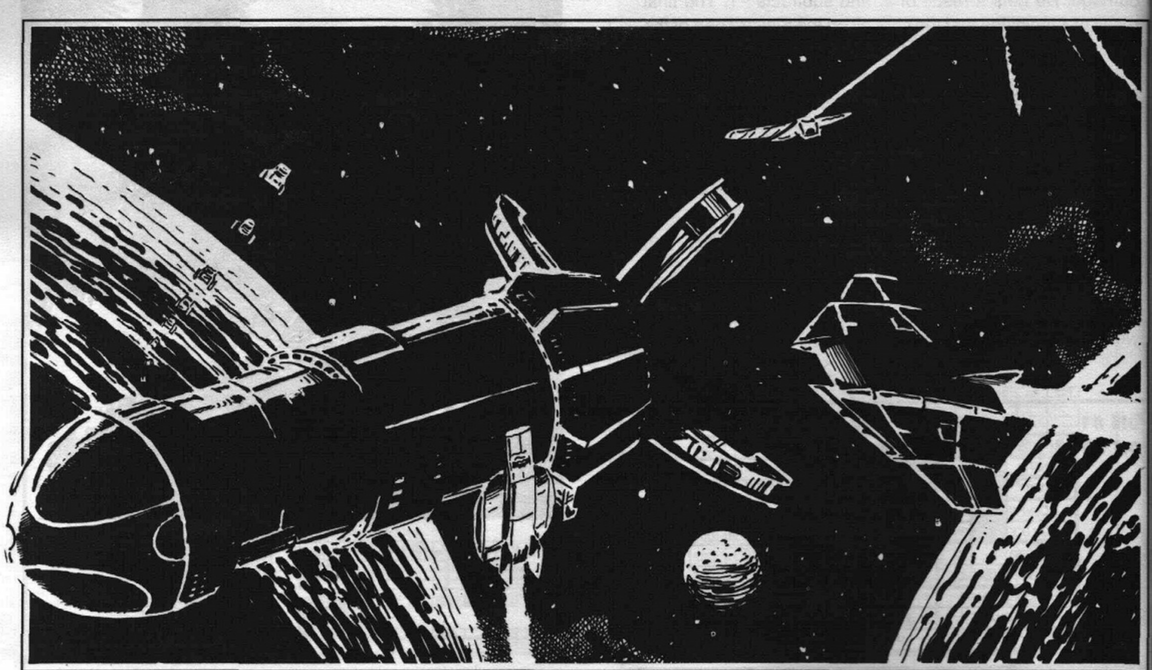
The first line of each component provides the common name for the critical system being affected. The name for the system as given in the Critical Damage box appears first in parentheses immediately below, followed by the official name for the system.

Effects

This section provides a brief description of the internal system and gives details on how different degrees of damage to that section affects the operation of the system and the ship.

Repair

The repair section provides a brief notation of the repair information and parameters for the system. Repairs are effected by making a Repair Roll (rolling 2D6) against a modified target number. For more information, see the **Repair** section, p. 60 in



Campaign Operations. Time to repair is given in hours per box of damage unless otherwise noted. Difficulty of repair represents the target number to make a successful repair. The number to the left of the slash is the target number to repair the system if damaged. The number to the right of the slash is the target number to repair the system if destroyed. A notation of NR following the difficulty target number means the repair cannot be repeated. A notation of XX means the repair cannot be made. Repair location indicates whether the repair can be made in the field or requires the ship to dry-dock.

GENERAL CRITICAL DAMAGE

Bay Doors
(Bay Door)
Effects: Each DropShip has several bays, each usually containing cargo (e.g., general cargo, 'Mechs, fighters, passengers). Each box crossed off reflects damage to the doors of the cargo bays. Each hit increases the time required to load or unload the bay. When all the boxes have been crossed off, that door no longer works and the relevant cargo bay is depressurized. See **Cargo**, p. 56 in **Campaign Operations** for more information.
Repair
Time: 1
Difficulty: 7/7NR
Location: Dry Dock

Bridge
(Bridge, Command Deck, Main Bridge)
Effects: Each Bridge box crossed out represents damage to equipment and injury to vital crew. For each box crossed out, add +1 to any Control Rolls. After taking bridge damage, the player controlling the unit must make a Control Roll for any single maneuver using more than 2 Thrust Points. When all the boxes have been crossed out, the bridge is destroyed and the unit adds an additional +1 to the above penalties. A unit with a destroyed bridge must make a Control Roll every time it expends a Thrust Point. As a precaution against the devastating effects of a destroyed bridge, some large craft maintain an auxiliary bridge that duplicates the functions of the main bridge. A craft with both a main and auxiliary bridge will suffer the above penalties only if both locations take damage. If both bridges take damage, use the least damaged to judge the ship's operations. If both the main and auxiliary bridges are destroyed, the unit may not expend Thrust Points. On smaller craft that are unable to carry an auxiliary bridge, use the Combat Information Center (CIC) as the auxiliary bridge. Using the CIC to control the craft does not eliminate the above penalties, but enables the craft to maneuver. If both the CIC and main bridge are destroyed, the unit cannot expend thrust.
Repair
Time: 8
Difficulty: 3/9
Location: Dry Dock

Cargo Bay
(Bay)
Effects: Each Cargo Bay box crossed out destroys an appropriate portion of the cargo in that bay. When all the boxes are crossed out, the bay and its cargo are destroyed. Players cannot move cargo between bays. See **Cargo**, p. 56 in **Campaign Operations**. Repairing a bay does not allow the player to recover its cargo.
Repair
Time: 2
Difficulty: 7NR/7NR
Location: Dry Dock

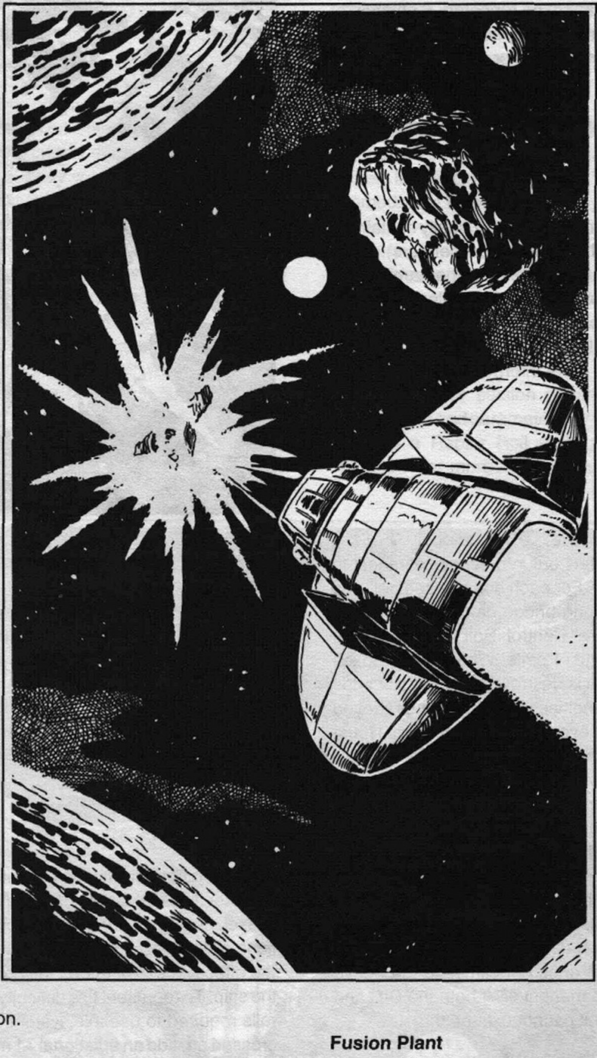
CIC
(CIC, Combat Information Center)
Effects: The Combat Information Center is the military brain of a vessel. Its primary function is to oversee and coordinate all operations of the vessel during combat. Every box crossed out reduces the effectiveness of efforts to coordinate the different elements of the ship. To represent this difficulty, add +1 to all target numbers for rolls required to use this system. When all the boxes have been crossed off, add an additional +1 modifier to the above effects (due to the difficulty of local control).
Repair
Time: 2
Difficulty: 6/7NR
Location: Field
Computer

(Computer, Primary computer core)
Effects: The main computer controls every internal system on the ship, and any damage inflicted on the computer will cause operating problems for most other systems on the ship. For each box crossed off for damage, add a +1 penalty to the target numbers for using the following systems: Navigation systems, Bridge, Radar, and CIC. The computer being destroyed (all boxes crossed off) does not cause any additional penalties, as secondary systems will take over the computer's functions. However, the +1 penalty to all target numbers for the above systems remains in effect. A ship whose main computer is destroyed can still operate, but with some difficulty. Some large craft carry an auxiliary computer core that duplicates the functions of the primary computer. For ships carrying an auxiliary core, the above penalties only apply if both the primary and auxiliary computers take damage. To determine effects of further damage on operations, assume that a unit will use the least-damaged computer core.

Repair
Time: 6
Difficulty: 6/7NR
Location: Field

Crew Quarters
(Crew Quarters)
Effects: Crossing off boxes from this critical location reflects damage to the crew's living quarters. Damage to this area has no combat effect, but a lack of rest facilities does affect the crew's performance during a campaign. See **Crew Quality**, p. 62 in **Campaign Operations**, for more information.

Repair
Time: 2 -
Difficulty: 7/7NR
Location: Dry Dock



Docking Collar
(Dock coll, Docking collars)
Effects: The docking collar consists of the servos and latches that enable a DropShip to dock with a space station, JumpShip, or another DropShip. The first box crossed off for damage doubles the time required to dock. The second hit destroys the mechanism, preventing the ship from docking.

Because JumpShips, WarShips, and space stations have multiple docking collars, they suffer different effects for docking collar critical damage. See the appropriate sections below for more information.

Repair
Time: 2
Difficulty: 6NR/6NR
Location: Field

Fuel System
(Fuel System Destroyed)
Effects: Crossing out one of these critical damage boxes means the ship can no longer expend thrust. Because these boxes apply to the fuel transfer systems, each hit to the drive may result in an explosion. Every time the player crosses out a Fuel System Destroyed box, he should roll 2D6 against a Target Number of 4, adding +2 to the target number for each additional Fuel System Destroyed box crossed out. If the dice roll result is greater than the target number, the fuel does not explode. Make only one roll per turn to check for an explosion. An explosion destroys the craft and its contents.

Repair
Time: 2 months
Difficulty: 6NR/XX
Location: Dry Dock

Fusion Plant
(Fusion Plant)
Effects: Damage to the fusion plant reduces the unit's ability to maintain its systems. The plant provides 8 Power Points, one allocated to each firing arc (to power the weapons bays), one each to life support and the transit drive, plus two additional points.

(Damage to the fusion plant always knock out the excess points first.) Each box of the fusion plant crossed off reduces the ship's available power, and means that fewer systems can be used. For example, crossing off 4 Fusion Plant boxes (2 excess points + 2 points) means that only six systems receive power.

The unit's commander may allocate power to different systems each turn, but standard procedure requires that life support be the last system taken off-line. When no boxes remain unmarked, the ship is without power. Treat unpowered systems as destroyed. This means that if the weapons system is off-line, the ship may not fire its weapons; if the fuel system is off-line, the *ship cannot use* Thrust Points; and so on.

The fusion plants of WarShips and space stations provide 8 Power Points (2 boxes per 1 point of power) to run the internal systems. However, the capital ship bays of each firing arc require 1 point of power.

Repair
Time: 5
Difficulty: 5/7NR
Location: Dry Dock

Hull Collapse
(Hull Collapse, Failure of structural integrity)
Effects: Crossing out even one of these critical damage boxes compromises the ship's structural integrity. The craft loses its internal atmosphere, and the crew must wear pressure suits. A hull collapse result also destroys the power conduits (rendering weapons inoperative), and the engine and power plant cease operation. When *all* Hull Collapse *boxes are crossed out,* the craft is destroyed.
Repair
Time: 2 days
Difficulty: 8NR/XX
Location: Dry Dock

Landing Gear
(Lnd Gear)
Effects: Each hit to the landing gear makes safe landings more difficult. Add a +3 modifier to the target number of any Landing Rolls for each box crossed out. The landing gear has been destroyed when all boxes are crossed out. Because this makes landing safely *even more difficult,* landings attempted by units whose landing gear is destroyed must add an additional +6 modifier to the Landing Roll. If a craft with destroyed gear does manage to land, it cannot take off again.
Repair
Time: 2
Difficulty: 6NR/12NR
Location: Dry Dock

Left Thruster/Right Thruster
(Left/Rt Thruster, Left/Right Maneuvering Quad Thrusters)
Effects: Each Thruster box crossed out represents damage to the maneuvering thrusters on the hull. Each hit adds +1 to the number of Thrust Points required to turn in the appropriate direction (for example, damage to the left thruster makes it harder to *turn left*). When the thruster on one side is destroyed (all the boxes crossed out), the craft can no longer turn in that direction.
Repair
Time: 1
Difficulty: 6NR/6NR
Location: Field

Life Support
(Life Support)
Effects: Each hit to this system degrades the craft's life support. The first box of damage crossed out imposes no penalty, but for the second and subsequent boxes crossed out, add a +1 modifier to any Control Rolls. When the last box is *crossed out, the unit's life* support system has failed. The crew must put on pressure suits and add an additional +1 modifier to all Control Rolls. On civilian craft, where the crew usually have minimal training in suited operations, any maneuvers to change direction or velocity require extra time, and *occur after a delay of 1 turn.* In other words, the controlling player must announce the unit's movement 1 turn before it occurs.
Repair
Time: 2
Difficulty: 7/8NR
Location: Field

Navigation Systems
(Nav sys, In-system or Astro-navigation systems)
Effects: This system provides the means for in-system navigation and navigation between stars on JumpShips. Any damage to this system makes the transit or jump more difficult. For more specific information, see **System Transit**, p. 52 in **Campaign Operations.** *It is possible for a craft to operate successfully with a damaged or* destroyed navigation system, but it is very difficult and time-consuming.
Repair
Time: 6
Difficulty: 7/7
Location: Field

Plant Destroyed
(Plant Destroyed, Fusion Plant Destroyed)
Effects: Crossing out one of these critical damage boxes means the ship has lost power. It cannot fire weapons, expend thrust, or maintain life support. The crew must wear pressure suits to survive.
Repair
Time: 2 months
Difficulty: 6NR/XX
Location: Dry Dock

Radar
(Radar)
Effects: The radar system allows the unit to track any nearby units or planetary bodies within 100,000 miles. *The first box crossed off* for damage makes it harder for the DropShip to detect an enemy, and makes precision maneuvers more difficult. In game terms, the

player adds +1 to the target number of all Detection Rolls (see **Detection** in the **Campaign Operations** section, p. 48), and +1 to all Docking Rolls. Crossing out a second box for damage forces the unit to rely on inferior back-up systems. In this case, add +3 to the target number for all Detection and Docking Rolls.

Repair
Time: 2
Difficulty: 6/6NR
Location: Field

Reaction Mass
(Reaction Mass)

Effects: Each hit to this location reduces the current amount of available fuel by 30 points, and reduces the total fuel reserves by the same amount. If all the Reaction Mass boxes are crossed out, the ship can no longer store any fuel. Every time this location is hit, there is a chance the fuel may explode. The first time a unit carrying fuel is hit in this critical location, the player controlling the unit should roll 2D6 against a Target Number of 4. Add a +2 modifier to the target number for each subsequent time the location is hit. If the dice roll result is greater than the target number, the fuel does not explode. A fuel explosion will destroy the ship and its contents. If the reaction mass takes damage but does not explode, and if no fuel remains, the vessel may not expend Thrust Points. When all the Reaction Mass boxes have been crossed out, the tank is destroyed and must be replaced in dry dock.

Repair
Time: 24
Difficulty: 6NR/XX
Location: Field

Ship Destroyed
(Ship Destroyed)

Effects: *A critical hit to this location means the unit is destroyed.* Roll 1D6. On a result of 1–3 the ship explodes. On a result of 4–6 it disintegrates.

Transfer
(Transfer)

Effects: Nominally part of the docking collar, these critical damage locations represent the ship's umbilical cord, the access-ways for the transfer of fuel, cargo, and personnel. As soon as the first of these boxes is crossed out, double the time required to perform any transfer of fuel, materials, and so on. A second hit to this internal system prevents any transfers taking place.

Repair
Time: 2
Difficulty: 6NR/6NR
Location: Field

Transit Drive
(Transit, Transit Drive, Transit Drive and/or Maneuvering Drive)

Effects: These critical damage locations represent the craft's engines. Each box crossed off reduces available thrust by 1 Thrust Point. When all the Transit Drive boxes have been crossed out the transit drive is destroyed and the craft can no longer expend Thrust Points. The player does not need to check for an explosion when the drive is destroyed in this manner; this damage represents damage to the thrusters and exhaust nozzles, not fuel transfer systems or the reaction chamber.

Repair
Time: 5
Difficulty: 7/9NR
Location: Dry Dock

Weapons Bays
(WP, Weapons Bay)

Effects: Each Weapons Bay box crossed out represents damage to the weapons bays and ammo or power feeds for that arc. The first hit destroys 50 percent of the bays in that arc (round up and randomly determine those affected), preventing their use. A second hit destroys the remaining bays, and the ship can no longer fire in that arc.

Repair
Time: 2.5
Difficulty: 6NR/6NR
Location: Field

Note: The Weapons Bay boxes for critical damage indicate the firing arc for that bay. AR = aft right, AL = aft left, FR = fore right, FL = fore left. When repairing weapons bays, roll once for each bay in the arc. On a failed Repair Roll, all of that bay's weapons must be replaced.

JUMPSHIP/WARSHIP CRITICAL SYSTEMS

Capital Weapons Bays
(Cap WP, Capital Weapons Bay)

Effects: *Each Capital Weapons Bay box crossed out represents* damage to the weapons bays and ammo or power feeds of that arc. The first hit destroys 25 percent of the bays in that arc (round up and determine those affected randomly) and makes them useless. Each additional hit destroys another 25 percent of the bays. Crossing out all the boxes for an arc means no weapons can fire in that arc.

Repair
Time: 5
Difficulty: 6NR/6NR
Location: Dry Dock

Note: The firing arc is designated on the Critical Damage Box as AR = aft right, AL = aft left, FR = fore right, FL = fore left, R = Right Broadside, L = Left Broadside. When repairing weapons bays, roll once for each bay in the arc. A failed Repair Roll means all weapons in that bay must be replaced.

Communications
(Comm, Communication Systems)

Effects: Many WarShips act as flagships for a fleet, and so carry additional communications systems that allow them to communicate with their fleet and with their bases. When centered on a hyperpulse generator, as on the WarShips of the defunct Star League (and the Clans), these systems provide an unrivaled communications advantage. The WarShips belonging to the Houses still rely on radio communications, and so their communications are limited to the speed of light. When a WarShip takes 1 box of damage to communications, it loses contact with its base. Crossing out the second box for damage means the flagship loses contact with its fleet.

Repair
Time: 6
Difficulty: 5/8NR
Location: Field

Crew Quarters/Recreation Facilities

(Crew Quarters/Recreation, Recreation Facilities)

Effects: Crossing off boxes from these critical damage locations reflects damage to the living and recreation areas of the vessel. These areas have no importance in combat, but a lack of R&R facilities will make a difference in a campaign. See **Crew Quality,** p. 62 in **Campaign Operations** for more information.

Repair
Time: 20
Difficulty: 7/7NR
Location: Dry Dock

Docking Collar

(Dock Coll or Docking Collars)

Effects: Each JumpShip, WarShip, and space station supports a number of hardpoints at which DropShips may dock. Each Docking Collar box crossed out will reduce the number of DropShips that may dock with that craft by 12.5 percent (with a minimum of one, round all fractions up). Apply damage to unoccupied hardpoints first. When docking collar damage applies to occupied hardpoints, choose the affected hardpoints and roll 1D6. On a result of 1 to 3, the DropShip immediately undocks from the JumpShip. Emergency doors prevent either craft from depressurizing. On a result of 4 to 6, the docking mechanism locks, and the DropShip may not undock until the collar is repaired. If the mechanism cannot be repaired (see **Repair**, p.60 in **Campaign Operations**), the DropShip must remain attached to the JumpShip until the JumpShip can reach a dry dock.

Repair
Time: 2
Difficulty: 6NR/6NR
Location: Field

Engineering

(Engineering, Engineering Control Center)

Effects: The engineering control center coordinates the work of the drive and fusion plants of large vessels. Damage to engineering will make it more difficult to control the ship's engines or plant. If the plant or drives are functioning normally, damage to engineering will have little effect on those systems. However, if engineering is damaged, and either the plant or drive systems take damage, double the effects of that damage for each Engineering box crossed out.

Repair
Time: 40
Difficulty: 7/9
Location: Field

> Engineering and the transit drive of a WarShip both take 1 box of damage. Normally, the WarShip would decrease its Thrust Values by 1 for this damage, but because engineering is damaged, the transit drive thrust is reduced by 2. If 2 Engineering Boxes had been crossed out (i.e., engineering was destroyed), thrust would be reduced by 4 points.

Escape Systems

(Esc Sys, Escape Systems, Emergency Exit Systems)

Effects: JumpShips, WarShips, and space stations carry so many crewmen that the emergency escape systems require a sizable area of the craft. The escape systems critical location represents this important emergency system. For each box crossed out, reduce the number of functioning escape systems. On a space station, each box crossed out reduces the number of functioning systems by 25 percent. On a JumpShip or WarShip, each box crossed out indicates a reduction of 50 percent. When all damage boxes are crossed out, the crew of the vessel can no longer escape via escape pods or lifeboats. They must rely instead on the ship's small craft (if the small craft bays are intact). At first glance, this rapid degradation of the escape systems appears harsh; however, most ships carry only sufficient escape pods and lifeboats for one third of the crew, and so if even a few of the escape systems are destroyed, this loss will seriously affect the number of people who can escape.

Repair
Time: 6 per pod/boat
Difficulty: 4/8
Location: Field

Grav Deck

(Grav Deck, Artificial Gravity Deck)

Effects: Prolonged exposure to zero gravity can prove detrimental to the health of crews stationed in space over prolonged periods. To counter the common problems of zero gravity, many large ships and space stations maintain a grav deck, an area of the ship that spins around the craft's axis, producing artificial gravity by means of centrifugal force. The drive motors and bearings creating this artificial environment are very delicate, and any damage to the deck will prevent its use. Grav decks cannot be used while a craft is in motion: any attempt to do so causes one box of damage to the grav deck for every minute it is in use.

Repair
Time: 10 days
Difficulty: 8/11NR
Location: Dry Dock

Jump Sail Array
(Jump Sail Array)
Effects: The jump sail array is the mechanism that stores, furls, and unfurls the jump sail used by JumpShips, WarShips and space stations. The material used to make the sail is very delicate and must be furled and unfurled carefully. Any damage to the mechanism that performs this task will drastically increase the time needed for these operations. For each box crossed out, add 100 percent to the time required to furl or unfurl a sail. For example, if the jump sail array takes 2 boxes of damage, add 200 percent to the base time to furl or unfurl the sail, making the minimum time required 8 hours. When all boxes are crossed out, the unit can no longer deploy or recover its jump sail.
Repair
Time: 40
Difficulty: 5/8NR
Location: Field

K-F Drive Destroyed
(KF Drive Destroyed)
Effects: Crossing out one of these boxes for damage prevents the ship from making a hyperspace jump. All drive components must be replaced.
Repair
Time: 6 months
Difficulty: Replace all components.
Location: Dry Dock

K-F Drive System

See the **Hyperspace Travel** section, p. 42 of **Campaign Operations**, for the effects of damage to the K-F drive systems. The name of each component of that system, the Critical Damage box designation, and the repair codes follow.

Drive Charging System
(Charging System, K-F Drive Charging System)
Repair
Time: 2
Difficulty: 8NR/9NR
Location: Field

Helium Tank
(Helium Tank)
Repair
Time: 3
Difficulty: 5NR/9NR
Location: Field

Field Initiator
(Field Initiator, K-F Field Initiator)
Repair
Time: 2 months
Difficulty: Must be replaced
Location: Dry Dock

Drive Coil
(Drive Coil, K-F Drive Coil)
Repair
Time: 2 months
Difficulty: Must be replaced
Location: Dry Dock

Drive Controller
(Drive Controller, K-F Jump Controller)
Repair
Time: 5
Difficulty: 10NR/10NR
Location: Field

Lithium Fusion Battery
(Lithium Battery, Lithium-fusion Battery)
Repair
Time: 2 months
Difficulty: Must be replaced
Location: Dry Dock

KFFC Boom
(KF Boom, Kearny-Fuchida field conducting-boom)
Effects: The K-F boom allows a JumpShip to expand its K-F field around a DropShip it wishes to transport. As soon as the first damage box is crossed off, double the time needed to dock ships and prepare for jump. A second hit destroys the K-F boom, making it impossible to extend the field around the DropShip (thus preventing the JumpShip from transporting that DropShip). A DropShip can dock with a JumpShip damaged in this way, but the JumpShip will be unable to jump with that DropShip.
Repair
Time: 6
Difficulty: 6/6NR
Location: Field

Navigation Lights
(Nav Lights, Navigation Lights, Running Lights)
Effects: The navigation lights tell other ships the direction in which a ship is heading. Different colors and patterns distinguish port, starboard, fore, and aft while a craft is maneuvering. Damage to this system makes little difference to the game, as the navigation lights are turned off or changed to create camouflage during combat.
Repair
Time: .5
Difficulty: 4/5
Location: Field

Observation Deck
(Obs Deck, Observation Deck)
Effects: The observation deck provides a place for visiting senior officers to observe the activity on the craft's main bridge and still be out of the way. Damage to the observation deck has no effect on

a craft's performance. On Clan WarShips, the observation deck is often the site of the batchall between commanders, but this ceremony may also occur on the main bridge, the auxiliary bridge, or the CIC.

Repair
Time: 8
Difficulty: 3/6
Location: Field

Shielding
(Shielding, Ballistic Shielding)
Effects: Found only on large WarShips, ballistic shielding consists of an additional layer of armor carefully positioned to provide extra protection for the bridge. Crossing out the boxes of this system has no effect on the craft's performance.
Repair
Time: 2
Difficulty: 2/4
Location: Field

Station-Keeping Drive
(Station-Keeping Drive)
Effects: Found only on JumpShips and space stations (WarShips use transit drives), this small drive allows the craft to maintain its position or move very short distances. Any damage to the system will reduce the ability of the craft to expend thrust, but as long as 1 box remains unmarked, the craft will be able to maintain position. On a JumpShip, each box crossed out reduces the ship's Thrust Value by 0.1G (0.2 Thrust Points). Thus, the station-keeping drive must take 5 boxes of damage to affect the ship's thrust by even 1 Thrust Point.
Repair
Time: 5
Difficulty: 7/9NR
Location: Dry Dock

SPACE STATION CRITICAL DAMAGE

Battery
(Battery, Energy Storage Banks, Energy Storage Batteries)
Effects: These huge banks of capacitors store the energy gathered by the station's jump sail. Each energy bank may store sufficient energy to charge one JumpShip's K-F drive. For each box crossed out, reduce the number of charges a station can store by 1. When all the damage boxes have been crossed out, the station can no longer store energy.
Repair
Time: 60
Difficulty: 6/10NR
Location: Field

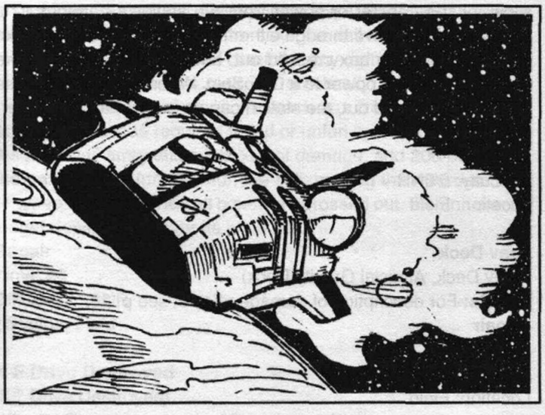
Energy Transfer
(Energy Transfer System)
Effects: Only space stations have energy transfer systems, which allow for the transfer of power from the station's batteries to a JumpShip's K-F drive through either microwave transfer or direct hook-up. For each box crossed out, add 25 percent to the time needed to transfer power to a DropShip. When all damage boxes have been crossed out, the station can no longer transfer power.
Repair
Time: 60
Difficulty: 5/8NR
Location: Field

Grav Deck
(Grav Deck, Artificial Gravity Deck)
Effects: For description of damage effects, see p. 29.
Repair
Time: 10
Difficulty: 8/11NR
Location: Field

Repair Facilities
(Repair Facilities)
Effects: Some large space stations maintain dry docks that provide repair facilities for DropShips and some JumpShips. Many of these facilities can be pressurized to provide atmosphere, which makes conducting repairs considerably easier. Any vessel that needs to make repairs requiring a dry dock may dock for such repairs at any orbiting station with repair facilities. Repairs carried out in a dry dock require the standard repair time if the facility is depressurized (or cannot be pressurized), but repairs in pressurized facilities require only 75 percent of the stated repair time. Repairs that can be made in field facilities may also be made in dry dock, and require only 50 percent of the stated repair time. Any damage to the repair facility (crossing out boxes) will decompress the dry dock, and those facilities can no longer be used as a pressurized dry dock. If the bay contains atmosphere (is pressurized) when it takes damage, the damage results in explosive decompression and kills all unsuited personnel in the facility. The station may also take collateral damage from explosive decompression. Because of this possibility, most stations depressurize their repair facilities if combat is imminent.
Repair
Time: 40
Difficulty: 8/9
Location: Field

Station-Keeping Drive
(Station-Keeping Drive)
Effects: For description of damage effects, see above.
Repair
Time: 5
Difficulty: 7/9NR
Location: Field

OPTIONAL RULES



This section provides rules that add complexity to the game of **BattleSpace**. As with most advanced rules, these are best added to the game after all players feel comfortable playing the basic rules. The **Optional Rules** allow players to design their movement and attacks to achieve more specific goals, and add more realism to every facet of the game. The optional rules are divided into two types, movement and combat. Advanced Movement, Atmospheric Operations, Asteroids, Shuttlecraft, and Emergency Exit Systems all expand on the basic **BattleSpace** movement rules. The remaining sections expand on the basic combat rules, providing additional attack options and rules for dropping troops.

ADVANCED MOVEMENT RULES

The basic rules represent a massive simplification of the mechanics that govern movement in space. The following rules provide a more realistic situation.

The first advanced movement rule allows players to spend Thrust Points over several turns, which allows low-thrust units such as JumpShips to pick up sufficient speed to move around the mapsheet, and allows faster vessels to turn at higher speeds. The second advanced movement rule explains how high-thrust vessels may face a different direction than their heading indicates.

OPTIONAL THRUST POINT USE

Units may find it impossible to change their direction of travel at their current velocity. This optional rule allows the unit to expend thrust over several turns and so gather enough momentum to perform maneuvers that, under normal circumstances, would be impossible. A player who intends to have his craft perform a high-thrust maneuver must expend maximum thrust for as many turns as the player wishes, recording the accumulated thrust on the record sheet. If, while attempting to accumulate thrust, the unit moves slower than maximum thrust, or uses thrust for any other maneuver or velocity change, the unit loses all accumulated Thrust Points. All accumulated points must be used on a single maneuver. The unit must make the maneuver at the end of its movement (after the unit has moved a number of hexes equal to its velocity), and can perform only that single maneuver to expend the accumulated Thrust Points. The maneuver uses up the accumulated Thrust Points. JumpShips may use this stored thrust to accumulate the fractional thrust values that enable them to accelerate, decelerate, and turn (see **JumpShip/WarShip Construction**, p. 68)

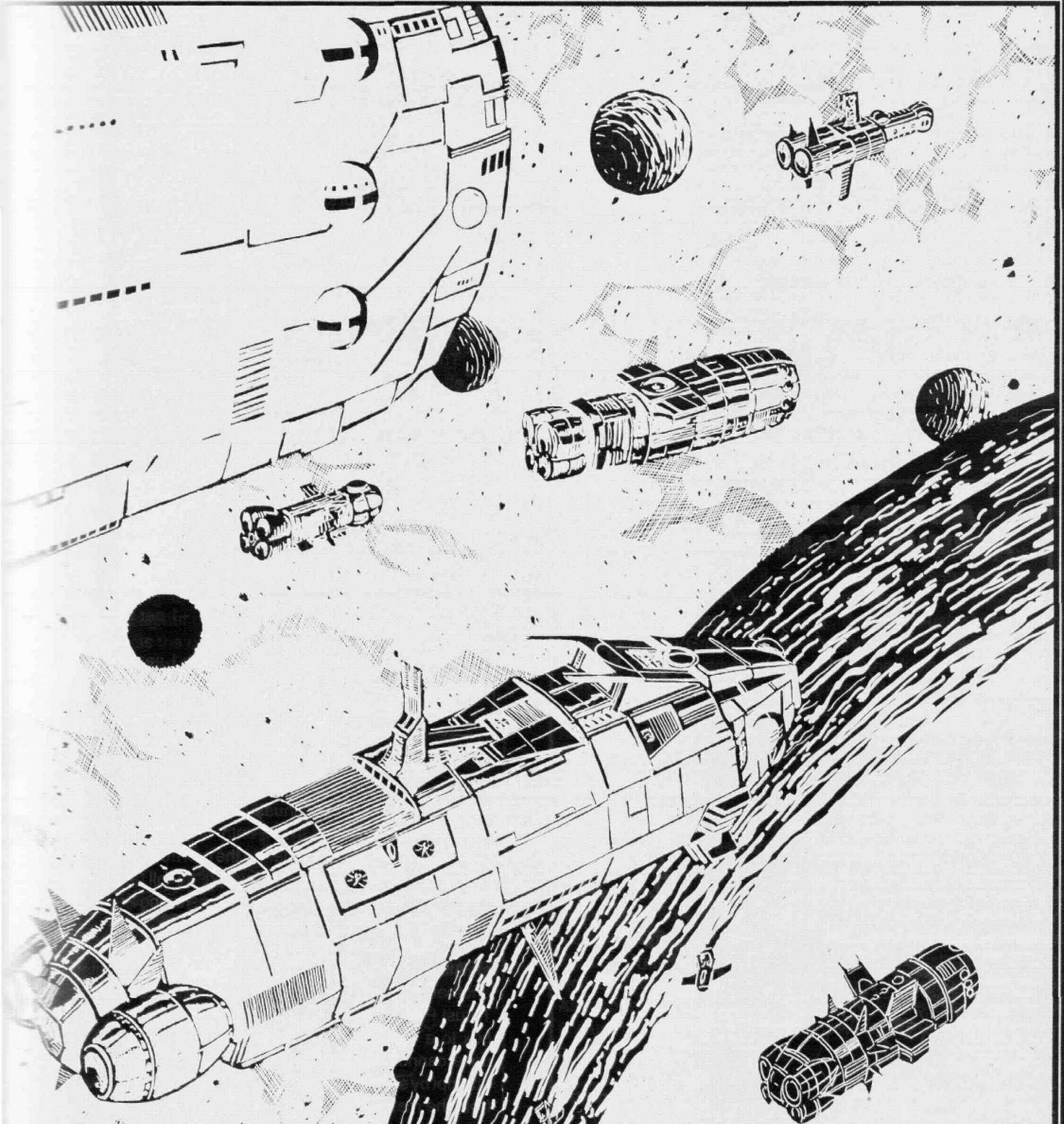
OPTIONAL FACING

In real space, a craft's heading (the direction of motion) does not always coincide with the direction in which the nose of the craft is pointing. Forget the cinematic concept of space fighters, where craft swoop and dive like atmospheric fighters (the maneuvers of which form the basis of space-fighter footage in movies). In reality, a spacecraft must maneuver so that its main drive points away from the direction it wishes to move, and then expend sufficient thrust to offset its current momentum and change its vector to the desired direction. (Of course, this is a gross simplification. Most physics textbooks provide a fuller explanation.) Most units can turn quite easily—it is the thrust required to change vector that restricts a unit's movement. The following rules provide a crude analog to the above principles.

Each ship has maneuvering thrusters designed to allow the craft to turn almost on the spot. Spending 1 Thrust Point changes the unit's facing by one hex side. Damage to the maneuvering thrusters means the craft must spend more Thrust Points to turn one hex side.

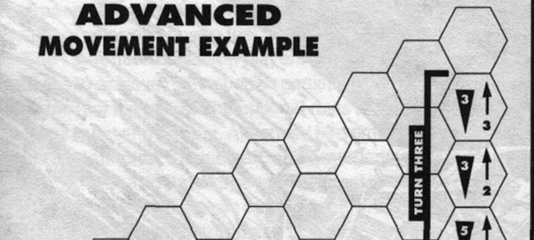
Place a Heading counter (arrow) under the unit marker. This counter indicates the direction of travel, as opposed to the facing of the unit. At any point during its movement, a unit may change its heading by expending a number of Thrust Points equal to its current velocity. After spending the appropriate number of Thrust Points, the heading of the unit will change to match its facing. The unit then proceeds at its current velocity along the new heading. Thrust applied to change heading does not increase the unit's acceleration. To decelerate when using this optional rule, a unit must be facing the opposite direction of its heading, and then apply thrust to accelerate the craft. This maneuver decreases the unit's velocity by the thrust applied to accelerate.

In atmosphere, the heading and facing of a unit will always be the same (though technically not true for spheroid craft, this generalization will suffice for the game). Use the standard Movement rules.



A *Union* class DropShip is traveling at a Velocity of 5. The pilot chooses to continue at the same velocity, and moves 5 hexes forward. However, the pilot does decide to change the unit's facing, and turns one hex-side left. The craft must now use a Heading counter, as its facing and heading are not the same. In the following turn, the pilot decides to change the craft's heading again to match the facing. The DropShip must expend 5 Thrust Points (the maximum thrust of a *Union*) to change heading. The pilot changes heading after the craft moves 4 of its 5 hexes, and the last hex of movement is along the new course. In the next turn the pilot decides to decelerate (see above), and thus turns the craft through 180 degrees (using 3 Thrust Points). The pilot uses the last 2 Thrust Points to reduce the ship's Velocity to 3. The DropShip then moves 3 hexes in the direction of travel (which is "backward" to the DropShip).

ADVANCED MOVEMENT EXAMPLE



ATMOSPHERIC OPERATION

Engagements fought in near-orbit almost always spill over into th upper atmosphere. When fighting an engagement near a plane atmosphere, make the following changes to the map and rules.

Nominate one edge of the map as the surface of the plane Treat the 4 hex-rows above the ground as the planet's atmospher Row 5 serves as the space/atmosphere interface.

The proximity of ships to the planet makes the effects of gravi very important. Gravity affects any craft on the same mapsheet the planet's surface. The following information describes the e fects of the space/atmosphere interface, atmosphere, and groun on ship operations.

SPACE/ATMOSPHERE INTERFAC

The space/atmosphere interface marks the border betwee the effective vacuum of space and the denser planetary atmosphere. Because it acts as a barrier, the interface can damage destroy any craft entering the Interface hex-row. When a u moves from a Space hex to an Interface hex, the player makes Control Roll. Modify the Target Number of 4 for the followi existing conditions:

INTERFACE TABLE

Condition	**Modifier**
Craft has no thrust	+4
Craft has engine damage	+1 per box of damage
Craft has damage to maneuvering thrusters	+1 per box of damage
Craft has internal damage	+1 per box of damage
Bridge damage	+1 per box of damage

If the Control Roll result is equal to or greater than the targ number, the re-entry attempt succeeds. The craft then enters destination hex and continues its movement. If the result is le than the target number, the re-entry has failed. The unit's Veloc becomes 0, and it must remain in the hex from which it tried to ent the interface. For each point by which the roll failed, apply 5 poi of damage to the nose of the craft (transferring any critical dama as appropriate).

The player need not make a Control Roll for a unit moving fr an Atmospheric hex to the interface, or from an Interface hex another Interface hex. Only craft capable of expending 4 or mo Thrust Points (2 Gs of acceleration) may move from an Interfa hex to a Space hex. JumpShips, WarShips, and Out-of-Cont units cannot safely enter the space/atmosphere interface. A attempt by such units to do so destroys the unit (remove the count from the mapsheet in the End Phase).

ATMOSPHERE

In atmosphere, certain additional factors influence moveme For example, lift and drag alter flight dynamics considerably, givi aerodyne DropShips and fighters a distinct performance edge ov spheroid DropShips.

Movement

For all types of units operating in atmosphere, the velocity of each unit decreases by 1 in the End Phase of every turn. For all units operating in atmosphere, increasing a unit's velocity by 1 costs 2 Thrust Points. Use the standard rules to decrease a unit's velocity.

Because spheroid DropShips must use their thrusters to provide lift, control, and velocity, these craft are impractical for atmospheric combat. Spheroid DropShips have a maximum Velocity of 2. However, they may "hover" in an Atmosphere hex by pointing their nose directly away from the planet and reducing their velocity to 0. The unit must then spend 2 Thrust Points per turn to offset gravity and remain in place. As long as the DropShip is hovering, this thrust will not increase the unit's velocity.

Aerodyne DropShips and fighter units may operate at higher speeds in atmosphere than spheroids by using their wings and other lifting surfaces to provide the means of flight, and using ailerons, flaps, and rudders to maneuver. Atmospheric density affects the speed at which these streamlined craft may travel. As the unit approaches the surface of the planet, atmospheric density, and thus friction, increases, and the maximum speed possible decreases. The table below gives the maximum safe speed in atmosphere for each altitude above the planet's surface (each row on the mapsheet).

If a craft exceeds the Safe Thrust for the altitude, for each point over the Safe Thrust it will automatically take 5 points of damage to its nose armor. Fighters and aerodyne DropShips cannot hover: if the velocity of a fighter or aerodyne DropShip drops to 0, gravity immediately affects the unit as described below (see **Gravity**).

Units may enter Ground hexes in the same way as an Atmosphere hex.

MAXIMUM ATMOSPHERIC SPEED TABLE

Mapsheet Location	Altitude (in kilometers)	Thrust Points (Velocity)
Interface	90-107	15(16,200 kph)
Row 4	72-89	12 (12,960kph)
Row3	54-71	9 (9,720kph)
Row 2	36-53	6 (6,480kph)
Row 1	18-35	3 (3,240 kph)
Ground	0-17	2 (2,160 kph)

A craft in atmosphere must make a Control Roll in every turn in which it takes damage. Use a Target Number of 6 and apply all applicable standard modifiers (see **Control Rolls**, p. 12 in **Movement**). When applicable, also apply any of the additional following modifiers to the target number:

Per 5 points of critical damage	+1
Unit is spheroid DropShip	+1
Unit is aerodyne DropShip	0
Unit consists of fighters	–1

An Out-of-Control unit in atmosphere automatically loses 1 altitude level each turn it is Out-of-Control (see above), and crashes if it enters (or is in) a Ground hex.

Atmospheric interceptors (e.g., the *MechBuster* fighter) may only operate in Ground hexes and the two hex-rows above the surface. Propeller-driven craft, such as the *Karnov* UR transport, may only operate in the Ground hexes and the first hex-row above the surface. These conventional craft may hover using the same rules as for spheroid DropShips, and may turn for half the normal cost in Thrust Points.

Gravity

Gravity influences the position of any units at zero velocity on the same mapsheet as the surface of the planet. In the End Phase, move any units on the planetary mapsheet that have Velocity 0 one hex-row closer to the planetary surface. If there are two possible hexes into which a unit may move to represent the effects of gravity, the player controlling the unit chooses in which hex the unit ends the turn. Craft displaced into the Interface hex must make a Control Roll for re-entry. Gravity will not influence units in the interface, or Atmosphere or Ground hexes unless those units have a Velocity of 0. A unit in a Ground hex with a Velocity of 0 must either land, hover, or crash.

Combat

Conflicts carried out within a planet's atmosphere use additional rules to simulate the restricting effects of the atmosphere.

Atmospheric distortion, clouds, and wind drastically reduce the ranges of fighter and DropShip weapons. To represent this reduced range, each Atmosphere hex counts as 4 hexes for range, reducing the maximum range of engagement to 5 hexes. Treat any hexes that fall on the boundary between ranges as the longer range. This means short range is in the same hex as or 1 hex away from the attacker, medium range is 2 or 3 hexes from the attacker, and long range is 4 or 5 hexes from the attacker.

Combat in the space/atmosphere interface is similar to combat in the atmosphere. The atmospheric distortion in the interface also reduces the effective ranges of weapons: each Interface hex counts as 2 hexes for determining range. The row of Interface hexes also acts as a barrier between space and the atmosphere. Standard weapons bays may fire into but not through an Interface hex. Units in an Interface hex can fire at units in space and in atmosphere, and can be attacked by units in space and atmosphere, but a unit in space cannot fire into the atmosphere, and a *unit in atmosphere cannot attack a unit in space.*

Only capital ship Fire Factors may pass through the interface, and so these weapons bays can engage DropShips in atmosphere or bombard ground targets. The **Orbit to Surface Bombardment** section, p. 41, contains more information on space-to-surface fire.

GROUND

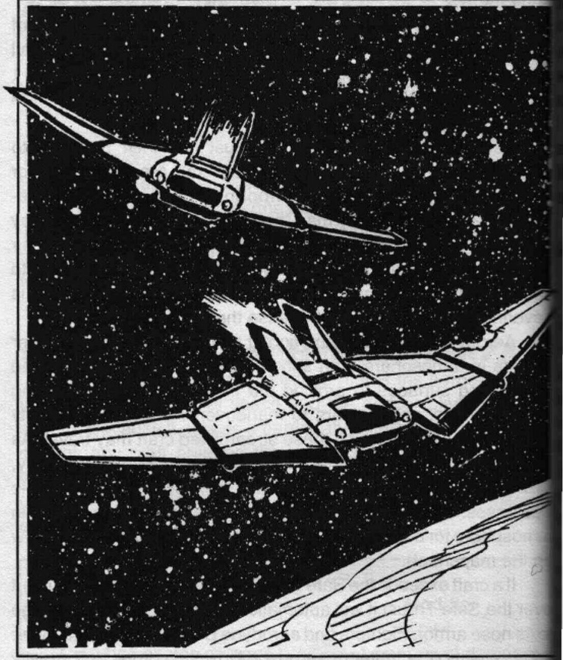
Any **BattleSpace** unit that ends its movement in a Ground hex may attack **BattleTech** units on one of the mapboards that make up that hex.

The rules given here for attacking targets on the ground are somewhat abstract, and players may wish to use the **AeroBattle** rules, p. 80 to simulate more realistic situations in greater detail (such as strafing or bombing). Because one **BattleSpace** turn lasts 60 seconds, and one **BattleTech** turn lasts 10 seconds, a **BattleSpace** turn takes place once every six **BattleTech** turns. On every sixth **BattleTech** turn, the **BattleTech** and **BattleSpace** Movement, Combat, and End Phases will coincide. The **BattleSpace** Initiative and Movement Phases take place separately from those of the **BattleTech** game. In the **BattleSpace** Combat Phase, any **BattleSpace** unit in a Ground hex may attack **BattleTech** units on an appropriate **BattleTech** mapboard.

Ground Attacks

A fighter unit may attack one ground target for each remaining fighter (each row of unmarked Armor boxes) in the unit. Individual fighters may target the same ground unit, but make separate Attack Rolls to determine if each fighter hits the target. DropShips in a Ground hex use the standard rules for multiple targets, and may split their fire between as many targets as they have Fire Factors. To determine line-of-sight, assume any unit attacking targets on the ground is in the center of the **BattleTech** mapboard (Hex 0808). This does not affect which targets fighter units can attack, but provides a reference point for determining the angle of attack and the position of a DropShip's firing arcs. The player controlling the DropShip chooses the ship's facing, which may be any of the hex's six sides.

Roll 2D6 for each target against a Base To-Hit Number of 6. Modify the to-hit number for damage to the attacking craft, for using more thrust than is safe, and for the terrain the unit is in (see the



Modifiers to Weapons Fire Table, p. 25 in the **BattleTech Com** **pendium**). Intervening terrain does not provide protection, as an **BattleSpace** craft will be able to shoot over terrain. Resolv attacks normally against targets in Depth 1 water or on the surfac **BattleSpace** units cannot attack units submerged to Depth 2 an lower.

All **BattleSpace** attacks against ground targets are consid ered short range. A successful hit will inflict a number of points o damage equal to the Fire Factors that hit the unit, multiplied by 10 Apply the damage in 5-point groups as if the attack originated i Hex 0808 (to determine the hit location). Use the BattleMech Hi and Punch Locations Tables, pp. 27 and 31 in the **BattleTech** **Compendium**, to determine the specific location damaged. The ground-attack Fire Factor of each fighter in a unit appears under the Velocity section at the bottom of each Fighter Record Sheet.

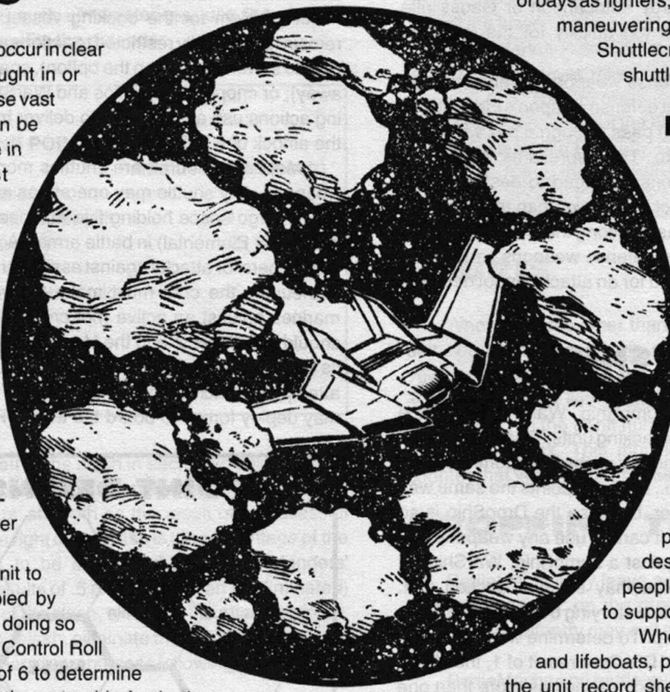
BattleSpace units may attack buildings using a To-Hit Num ber of 4. A successful hit causes damage to the building equal t the Fire Factors that hit the building multiplied by 10.

Ground units may fire at any **BattleSpace** units making *attacks against the* **BattleTech** *mapboard by using any weapons* with a Range of 6 or greater. Regardless of the weapon fired, the To-Hit Number for a ground unit to successfully return fire agains a **BattleSpace** unit is 10. Reduce this to-hit number by 1 for each level of the attacker's Gunnery Skill below 4, and increase it by for each Gunnery Skill level above 4 (per **BattleTech**). For example, a pilot with a Gunnery Skill level of 3 would use a To-Hit Number of 9 to return fire, and a pilot with a Gunnery Skill of 6 would use a To-Hit Number of 12 to return fire. Total all damage hitting each **BattleSpace** unit, and divide by 10. Apply a number of points of damage equal to the result to the nose of the unit.

Ground units may only attack a **BattleSpace** unit during the combined **BattleTech/BattleSpace** Combat Phase (every sixth turn). The attack of a **BattleTech** unit that fires at a **BattleSpace** unit during any other **BattleTech** turn has no effect.

ASTEROIDS

Many battles do not occur in clear space, instead being fought in or near asteroid fields. These vast arrays of large rocks can be both a boon and a curse in space combat. Most DropShips and JumpShips create an artificial magnetic field to deflect dust and sand-sized obstacles, and mount a series of small guns (usually lasers or PPCs) designed to destroy marble-sized pieces of debris. However, all space-faring craft must maneuver around any large obstacles (any object larger than 1 cubic meter).



It is possible for a unit to move through a hex occupied by an asteroid, but any unit doing so risks a collision. Make a Control Roll using a Target Number of 6 to determine if the unit collides with the asteroid. Apply the standard modifiers to the target number for damage to the unit or for using more thrust than is safe. A failed roll (a result less than the modified target number) means the ship and the asteroid collide; apply 1D6 x 10 points of damage to the unit's nose armor. A successful roll means the unit avoids a collision. Asteroids suffer no adverse effects in a collision.

Units may end the Movement Phase in the same hex as an asteroid. Doing so has advantages and disadvantages: neither the unit occupying the hex nor other units may trace a line-of-sight through a hex containing an asteroid. While this prevents other units from attacking a unit in a hex with an asteroid, the unit sharing the hex also cannot make any attacks.

SHUTTLECRAFT

Shuttlecraft represent the intermediate stage between fighters and DropShips. Though massing only slightly heavier than the average fighter, shuttlecraft can carry a substantial load of cargo or passengers. Most shuttlecraft are aerodynamic and ideally suited to servicing vessels or stations in orbit, saving the expense of using a DropShip for such minor tasks. Many DropShips and JumpShips carry shuttlecraft to transfer cargo between vessels, thus avoiding the relative hazards of docking. Carried in the same type of bays as fighters, shuttlecraft use the fighter rules for maneuvering, launching, and landing. Each Shuttlecraft counter represents a single shuttlecraft.

EMERGENCY EXIT SYSTEMS

Most vessels of DropShip size and larger carry small craft for use in emergency evacuations, for example, if the craft is in imminent danger of destruction. There are two distinct groups of craft. Escape pods are small, teardrop-shaped craft, capable of limited maneuvering and designed to support four people (six at a pinch) for between 12 and 20 days. Lifeboats are larger than escape pods, but cannot maneuver. Though designed to accommodate only 6 people, lifeboats carry sufficient supplies to support life for 24–30 days.

When a unit launches escape pods and lifeboats, place an appropriate number (see the unit record sheet) of Escape Pod and Lifeboat counters (1 counter for every 10 pods or boats) on the mapsheet in the launching unit's hex. Lifeboats will drift in the same direction, at the same velocity, as the launching unit. Escape pods will launch with the same facing and velocity as the launching unit, but may change velocity and direction. Escape pods have a Safe and Maximum Thrust of 4. The pods have sufficient fuel to expend a total of 9 Thrust Points.

Any standard weapons bay may attack flights of lifeboats or escape pods. Their poor (or nonexistent) mobility makes them easy targets. Any units attacking lifeboat units reduce the to-hit number for the attack by 2, and units attacking escape pod units reduce the to-hit number for the attack by 1. Both lifeboats and escape pods have 1 point of armor per five pods (or fraction of five) in the unit. Crossing out all the Armor boxes of a lifeboat or escape pod unit means that unit is destroyed. Escape pod units maneuver as if they were a fighter unit. See **Launching/Recovering Small**

Craft, p.50, for information on retrieving escape pods and lifeboats. See also **Atmospheric Operations**, p. 32.

ADVANCED POINT DEFENSE WEAPONS

The limited range of point defense weapons (machine guns, flamers, and small lasers) makes them almost useless in an offensive role. However, these weapons may engage and destroy incoming missiles and so help defend the unit. Point defense weapons cannot engage or destroy autocannon or Gauss rifle shells, as these projectiles travel too quickly for the targeting computers to track.

If a unit is using its point defense weapons defensively, the player may subtract half of the point defense weapon's Fire Factors from all enemy missile attacks that pass through a hex within the point defense weapons' firing arc. This represents how many missiles the point-defense weapons managed to destroy. Point defense weapons may also protect units other than the unit firing the weapons. If a missile attack passes along the line between two point-defense firing arcs, the point defense weapons can defend both arcs. A point-defense bay used for an attack cannot defend a unit in the same turn.

DOCKED DROPSHIPS

A DropShip docked with a JumpShip, WarShip, or space station may continue to fire at any attacking units. Treat any docked DropShips as if they are in the same hex as the transporting vessel and have the same orientation, i.e., the nose points the same way as that of the JumpShip. However, because the DropShip is so close to the transport (or station), it cannot use any weapons that fire directly aft. Attacks made against a JumpShip, WarShip, or station carrying docked DropShips may strike a docked unit. Attacks made against a space station carrying docked JumpShips or WarShips may hit a docked ship. To determine whether or not the attack hits a docked ship, roll 1D6. On a result of 1, the attack hits a docked ship. If the JumpShip or station has more than one docked unit, randomly determine the unit struck. Use the standard rules to determine the damaged side (see **Applying Damage**, p. 18in **Combat**).

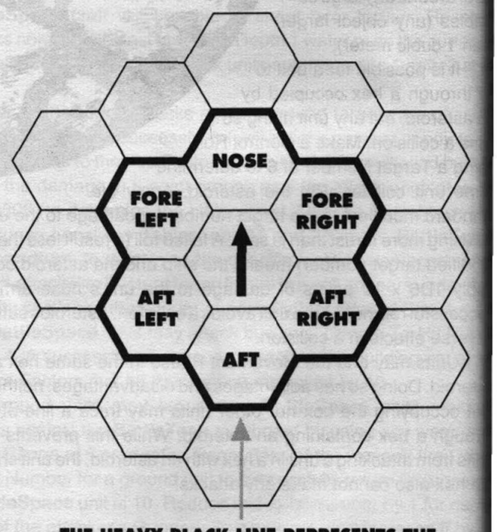
BOARDING ACTIONS

The naval tactic of boarding an enemy vessel is as old as naval warfare itself. Even in the 31st century, boarding is the only effective way to seize control of an enemy vessel short of destroying it. Most DropShips and JumpShips carry personnel trained for such operations. On civilian DropShips and JumpShips, the security staff assigned to provide a minimum level of defense,are also trained in boarding procedures. On military DropShips and JumpShips, marines trained to attack as well as defend serve the role of security personnel. For ease of reference, this rulebook uses the term "marine" to refer to any personnel trained to fight zero-G conditions aboard a spaceship.

The first stage in any boarding attempt requires the attacker match velocity and heading with the defender, and then to eith *dispatch marines using a shuttle/assault craft, or to dock with* target. Docking is generally very difficult, and particularly dange ous to attempt with a hostile vessel. Few captains will risk th maneuver. To dock with a hostile craft, the attacking craft must fi cripple the defender (i.e., *prevent it from expending thrust), or* target will be able to maneuver and prevent docking indefinite Even a few meters-per-second difference in velocity can pose major problem for the docking vessel. Thus, docking assau *remain rare, usually restricted to actions against* JumpShips (whi tend to surrender if given the option), space stations (unable to away), or crippled DropShips and WarShips. Most military boar ing actions use assault craft to deliver troops onto the hull or in *the airlock of a defending craft.*

Most assault craft are shuttles modified to carry troops a weapons. Any shuttle may operate as an assault craft, with ea ton of cargo space holding five marines in pressure suits or o marine (or Elemental) in battle armor. Add a +2 modifier to any hit numbers for attacks against assault craft to represent the erra maneuvers the craft must make to avoid being hit. To dep marines against an active (not crippled) target, the assault cr should maneuver to end the Movement Phase in the same hex its target, with the same heading and velocity. The assault craft attempt to attach grappling lines to the target, and if success may deploy forces to board the target. Roll 2D6 against a Targ

POINT DEFENSE ARCS



THE HEAVY BLACK LINE REPRESENTS THE MAXIMUM RANGE OF POINT DEFENSE WEAPONS.

Number of 8 to determine the success of grappling. A successful result means the craft attaches a grapple to the target.

To determine the result of a boarding action, establish the ratio of attackers to defenders. Marine Points are assigned to each person on the vessel, providing a value that represents the strength of the attacking and defending forces. The following table lists the Marine Point values of various personnel.

Total the Marine Points for each side and determine the ratio of attackers to defenders. After determining the ratio, roll 2D6 and cross-reference the result with the ratio on the Boarding Action Result Table, p. 40. It is unlikely that the ratio will exactly match one of those on the table. In such circumstances, use the closest-matching column that benefits the defender.

MARINE POINT TABLE

Personnel	Marine Points (each)
Clan Elemental in battle armor	5
Inner Sphere marine in power suit	4
Clan Elemental (no armor)	2
Marine	1
Non-combat ship crew/Fighter pilot.	.25
Other service personnel (e.g., MechWarriors/Infantry).	.25
Civilians.	1

The number to the left of the slash in each ratio column is the percentage of the defenders' total strength that should be subtracted from the attackers' strength as the result of a successful attack. The number to the right of the slash is the percentage of the attackers' total strength to be subtracted from the defenders' strength. Round up for results of .5 and above. If an E (eliminated) result appears to the left of the slash, eliminate the attacking force. If the E is to the right of the slash, eliminate the defending force. An additional letter may appear in parentheses following some results. Interpret these as follows:

R = Attacker repulsed. The attacking force doubles any casualties taken this turn. If the defender wishes, they may take the offensive, and counter-board a docked DropShip or attack craft.

P = Partial Control. The attacking force has seized control of a large portion of the ship, and the defenders must take the full damage indicated until an R result occurs or they eliminate the attackers.

Until a P result occurs, the defending force will only take half the indicated damage. When the defender's Marine Point total reaches 0 (or the defender chooses to surrender) the attacker captures the ship, and gains control of all systems. If an R result occurs, or the attacker's Marine Point total reaches 0, the boarding action fails.

Boarding actions may also be played out using the rules for **BattleTroops** or **MechWarrior, Second Edition**.

A player sends a unit totaling 50 Marine Points to board a DropShip defended by crew totaling 20 Marine Points. The ratio of attackers to defenders is 2.5:1, rounded (in the defenders' favor) to 2:1. The player rolls 2D6 for a result of 8, indicating a 35/55 result in the boarding action. The attackers lose a number of Marine Points equal to 35 percent of the defenders' strength (7 Marine Points worth of personnel). The defenders lose a number of Marine Points equal to 55 percent of the attacker's strength (27 Marine Points). However, because there was no P result, the defenders only take half the losses and lose 13 Marine Points worth of personnel. Now 7 Marine Points of troops face 43 (a greater than 3:1 ratio). The player rolls 2D6, and attackers get an unlucky result of 3. The attackers lose 50 percent of the defenders' strength (4 points) but the defenders lose 13 points (reduced to 6 for lack of a P result). One man survives. The odds are now 39:1, and the sole survivor surrenders.

DEBRIS

When any ship other than a fighter is destroyed, replace the unit counter with a Debris counter. The debris has the same velocity and heading as the destroyed unit. Units whose line-of-sight for an attack lies through a hex containing a Debris counter must add +1 to the to-hit number to make an attack that will pass through that hex. This modifier is cumulative for each Debris counter that line-of-sight passes through.

DROPPING TROOPS

BattleMechs may leave a DropShip while the ship holds one of three positions: on the ground, at high altitude, or in space. Battle-suited infantry may exit a DropShip in atmosphere or on the ground.

BattleMechs and battle-suited units that debark a DropShip at high altitude will descend under the influence of gravity, falling 1 hex per turn. Jump-capable BattleMechs and infantry in battle suits will use their built-in thrusters to control their descent. BattleMechs that lack jump jets are fitted with special, disposable thruster packs to allow them to land safely.

Fighters or DropShips may attack a descending 'Mech or battle-suited unit. All standard combat rules apply. Multiply the number of Fire Factors that hit the target by 10 to determine the damage that affects the descending unit. Divide this damage into 5-point groups and apply it to the unit using the **BattleTech** rules. All descending 'Mechs take damage to their backs.

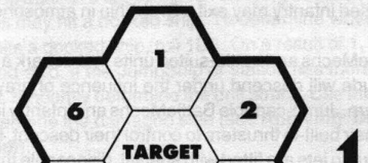
Upon reaching the Ground hex-row of the **BattleSpace** mapsheet, the player controlling the dropping unit should nominate a hex on the **BattleTech** mapboard on which to land. The player then rolls 2D6 against a Target Number of 4 to determine whether the landing was successful. Modify the target number for the following damage:

Per gyro critical hit	+4
Per head hit	+2
Per 10 points of damage received during descent	+1
Per leg actuator damaged	+1
Per hip critical hit	+2
Leg missing (ignore hip/actuator modifiers)	+5
Pilot unconscious	+5

The above modifiers are cumulative. If the die roll result is equal to or greater than the modified target number, the landing is successful. Any other result is a failure.

If a landing fails, find the difference between the target number and the dice roll result. The 'Mech or battle-suited infantry will take damage equal to its tonnage divided by 10 (round up) for each point by which the roll fails. A failure resulting from a difference greater than 7 means the unit is automatically destroyed. A failed landing may also mean that the unit does not land on the target landing site. The unit will "scatter" 1D6 hexes for every point by which the result falls below the target number. If the roll fails by 5 or more, the unit will miss its landing site by 1D6 x (the number of points of failure greater than 4) mapboards. Battle-suited units will take 5 points of damage for each Elevation level fallen.

BattleMech units may also launch from a DropShip in space, after being encased in a special ceramic cocoon to protect them during re-entry into the atmosphere. The cocoon provides no means for powered flight, and will fall toward the planet's surface under the influence of gravity (see **Gravity**, p. 33). Upon reaching the space-atmosphere interface, the player makes a Control Roll against a Target Number of 8. If the result is equal to or greater than 8, the 'Mech survives re-entry, jettisons the cocoon, and falls toward the planet's surface as described above.



SCATTER DIAGRAM

ATTACKING THE JUMP SAI

The energy-collecting sail used by most JumpShips (comba or otherwise) to gather the energy needed to move throug hyperspace makes a prime target for attack. The tremendous siz of the sail, and the fact that the JumpShip must remain stationar when the sail is deployed, makes an attack against the jump sail th easiest means of preventing a JumpShip's escape. Even a de ployed sail will not prevent a JumpShip with a fully charged K- drive from jumping out of the system, however.

When an attacker fires on a deployed sail, reduce the standar to-hit number for the attack by 4. However, the size and fragility o the jump sail limits the effectiveness of weapons used against i Explosive rounds often pass straight through the sail becaus warheads fail to explode on such slight contact. Energy weapon simply burn holes. As a result, the maximum amount of damag that can be inflicted per successful hit is 1 point. However, th physical integrity of most JumpShip sails is low, and even mino damage to a sail will allow the sail to rip itself apart.

SURFACE TO ORBIT FIRE

When ComStar opened its historical archives in 3052, the res of the Inner Sphere learned that elements of the Terran Spac Defense System remained operational. Though badly damage during the final days of General Kerensky's campaign to liberat Terra from Amaris the Usurper in 2779, some weapons from th formidable array of surface-to-space weaponry remained func tional. ComStar still declines to reveal the location of these missil launchers, particle cannons, and laser batteries for fear that a wa will begin to win control of them, but willingly made data availab relating to the effectiveness of the weapons.

Three primary types of surface-to-space weapons still exis Two of these systems can engage JumpShips and DropShips, an the third can engage targets of any size, which allows the SD systems to engage fighter units.

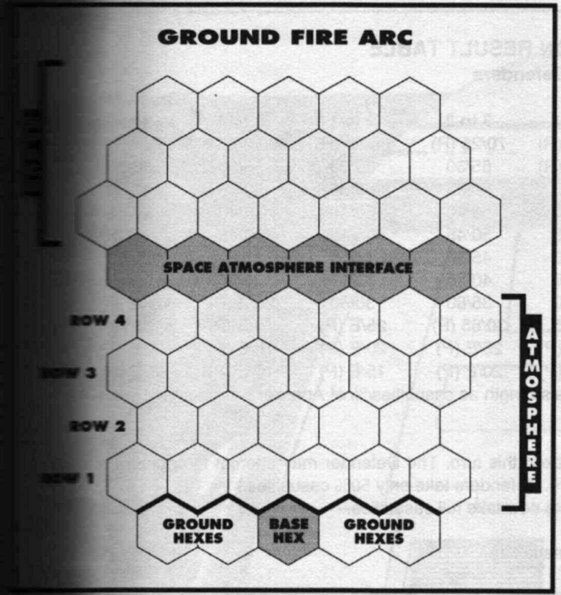
Naval-grade lasers and particle projection cannons compris the anti-WarShip weaponry, with modified LRM missile batterie serving as the anti-fighter weaponry. The slow tracking speed o the naval lasers and PPCs limits the ability of these weapons t engage small, agile targets, and such weapons may only fire upo targets of DropShip size or larger. The missile batteries fire a spread of missiles to saturate the target area, an ideal weapon typ to engage smaller targets. Missile units may engage any unit.

Each SDS base mounts at least one anti-WarShip weapo (laser or PPC) and three to ten missile batteries.

The Ground Arc Firing Diagram shows the firing arc of ground-based SDS weapons. The range of all weapons is 20 hexes. Use the standard modifiers for the effects of atmosphere.

The weaponry of an SDS base may engage any unit in its firing arc. The To-Hit Number for these weapons is 6.

If an SDS base is attacked, treat it as an attack against a standard ground base (see **Atmospheric Operations**, p. 32).


GROUND FIRE ARC

SDS WEAPONS TABLE

Weapon	Damage (in Fire Factors)
Light Naval PPC	7 each
Medium Naval PPC	9 each
Heavy Naval PPC	15 each
Light Naval Laser	4 each
Medium Naval Laser	5 each
Heavy Naval Laser	6 each
Missiles	5 per battery

WEAPONS OF MASS DESTRUCTION

The fierce, uncontrolled warfare of the Age of War, characterized by the utter decimation created in the Tintavel systems by Capellan and Free Worlds League forces in 2412, prompted the Houses of the Inner Sphere to draw up rules for "civilized" warfare. Aware that no House could continue to survive the terrible, bloody destruction of human lives and planetary economies created by the continuing conflicts, the leaders of the Great Houses wrote the Ares Conventions. The Conventions banned warfare in heavily populated areas and prohibited military destruction of civilian economies. These two basic principles by definition also banned orbital bombardment of ground targets and the use of nuclear weapons. All Inner Sphere Houses abide by these precepts of the Conventions.

On 12 May 3050, Clan Smoke Jaguar declared a Trial of Annihilation against Edo, a city on the Kurita world of Turtle Bay. The following day the Smoke Jaguar flagship, the *Saber Cat* (a *Texas* class battleship) fired a sustained laser and missile bombardment against the city, effectively wiping it off the map. More than one million people died. Most modern WarShips possess similar capability. Despite this incident, the Clans generally disdain weapons of mass destruction. Their warrior code honors those who defeat an enemy or take a target with the least possible loss of life and property. They particularly shun the use of nuclear weapons because they abhor the genetic damage such weapons inevitably create.

Players interested in exploring the use of such weapons of mass destruction in any scenarios set during the First or Second Succession Wars may do so with the following rules. However, no Clan or Inner Sphere force will use these weapons in modern-day warfare: as Theodore Kurita wrote in *Modern Tactics*, published in 3036, "[the use of weapons of mass destruction] is unethical even by the loose standards of any military definition of right and wrong." Their use also completely destroys any semblance of game balance in **BattleSpace**.

ORBIT TO SURFACE BOMBARDMENT

A WarShip in low orbit (just above the space/atmosphere interface) may fire its capital ship bay Fire Factors at surface targets. The 18-kilometer Ground hex of the **BattleSpace** mapsheet (containing the 1-kilometer **BattleTech** mapboard) must be within the firing arc of the bays used, and must be in range (allowing for the effects of atmosphere). Nominate a hex on the **BattleTech** map as the target for the bombardment, and roll 2D6 against a To-Hit Number of 10. If the result is equal to or greater than the to-hit number, the bombardment has landed directly on target.

If the result is less than the to-hit number, the bombardment deviates from its intended point of impact. Roll 1D6 and consult the Scatter Diagram, p. 38, to determine the direction in which the bombardment missed.

Find the distance in hexes by which the bombardment missed the target by rolling 1D6 and multiplying the result by the difference between the Attack Roll result and the to-hit number. For example, if the result of the Attack Roll was 6, the roll failed to hit by 4 (10 – 6 = 4). The player rolls 1D6 for a result of 4. The strike missed its target by 16 hexes.

Whether the bombardment lands on target or not, the blast will create damage over a large area. The damage from the bombardment will decrease with distance from the point of impact. At the impact point, the damage inflicted will be equal to the number of Fire Factors used for the attack, multiplied by 10. For each hex away from the impact, reduce the damage by 2 Fire Factors (20

BOARDING ACTION RESULT TABLE

Ratio of Attackers to Defenders

Dice	**Less than**								**Greater than**
Roll	**1 to 3**	**1 to 3**	**1 to 2**	**2 to 3**	**1 to 1**	**3 to 2**	**2 to 1**	**3 to 1**	**3 to 1**
2	E /1 (R)	E /1 (R)	E /5 (R)	E /10 (R)	75/25 (R)	70/25 (R)	65/25 (R)	60/25 (R)	55/25 (R)
3	E /3 (R)	E /3 (R)	E /7 (R)	E /15 (R)	70/30 (R)	65/30	60/30	55/30	50/30
4	E /5 (R)	E /5 (R)	E /10 (R)	65 /20	65/35	60/35	55/35	50/35	45/35
5	E /7 (R)	E /7	E /15	60 /25	60/40	55/40	50/40	45/40	40/40
6	E /10	E /10	E /20	55 /30	55/45	50/45	45/45	40/45	35/45
7	E /15	E /15	E /25	50/35	50/50	45/50	40/50	35/50	30/50
8	E /20	E /20	45/30	45/40	45/55	40/55	35/55	30/55	25/55
9	E /25	E /25	40/35	40/45	40/60	35/60	30/60	25/E (P)	20/E (P)
10	E /30	E /30	35/40	35/50	35/65	30/65 (P)	25/E (P)	20/E (P)	15/E (P)
11	E/35	30/35	30/45 (P)	30/55 (P)	30/70 (P)	25/E (P)	20/E (P)	15/E (P)	10/E (P)
12	30/40 (P)	25/40 (P)	25/50 (P)	25/60 (P)	25/75 (P)	20/E (P)	15/E (P)	10/E (P)	.5/E (P)

Results given as: % of Defender's strength subtracted from Attacker's strength as casualties/% of Attacker's strength subtracted from Defender's strength as casualties.

R = Attackers repulsed. The attacking force doubles any casualties taken this turn. The Defender may attempt to counter-board the Attacker's craft. (An R result also ends the effects of a (P) result, i.e. Defenders take only 50% casualties.)

P = Attackers sieze partial control of the Defender's craft. The Defenders now take full casualties.

E = Indicated force eliminated.

Until a (P) result occurs, the Defenders will take 50% of the indicated casualties.

points of **BattleTech** damage). To apply damage to any victims in the blast area, use the angle of attack for damage originating in the impact hex. Woods provide no protection against this type of damage, but if terrain 2 levels higher than either the impact or target hexes lies between the impact point and the target unit, the terrain shields the unit from damage. A victim in the hex of impact will take damage as if punched in the back.

NUCLEAR WEAPONS

Certain rumors are currently circulating about the use of a missile (code-named Alamo) designed to deliver a low-yield nuclear warhead against a target in space or on the ground. Unlike the Star League-vintage Davy Crockett ground-based missile, Alamos are carried on a centerline pylon by fighters. No records exist of an Alamo-type missile being used by any forces of the Star League era; still, it remains unclear whether these weapons come from an SLDF cache or are recent developments to counter the Clan WarShips.

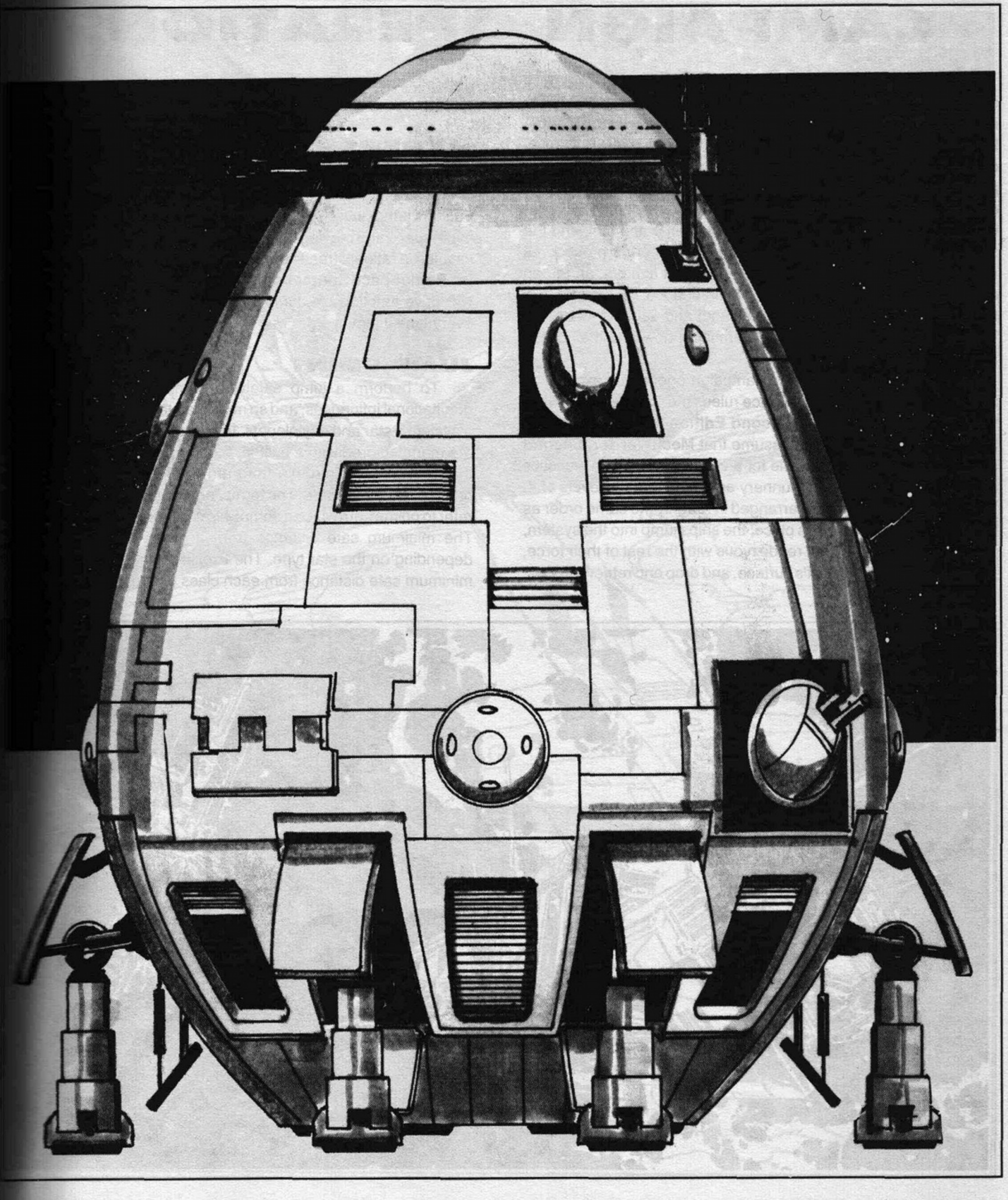
Any attempt to use an Alamo will require the fighter transporting it to enter the hex of the target (in space or on the ground). The player then rolls 2D6 against a To-Hit Number of 10. If the result is equal to or greater than the to-hit number, the attack succeeds. A successful attack against a target in space will automatically destroy the target, even if the target could normally survive the damage. Attacks against a ground target with an Alamo missile use the space-to-surface bombardment rules, with three exceptions:

No terrain can protect against an atomic weapon.

Remove any terrain features (including hills and lakes) or buildings within 25 hexes of ground zero (the point of impact). Buildings beyond the 25-hex area will take damage normally.

Automatically destroy any infantry within 50 hexes of groun zero. Battle-suited units take damage normally.

Alamo missiles have an effective Fire Factor of 100.



CAMPAIGN OPERATIONS

The first four sections of this book provided rules for how to simulate space combat in the **BattleTech** universe, and how to integrate space combat with ground combat using the **BattleTroops**, **MechWarrior, Second Edition**, and **BattleTech** rules. But space combat involves much more than simply arriving in-system, deploying fighters, and dropping troops on the planet's surface. The campaign leader must take many factors into consideration. Arriving in-system requires a certain amount of time and fuel, and the ship's pilot affects how much of both is required; certain procedures restrict the successful launch and recovery of fighters; and troop quality and availability and ship maintenance determine how smoothly a DropShip lands on the planet and debarks its troops. This section provides rules for determining how and if all of the above and more is accomplished.

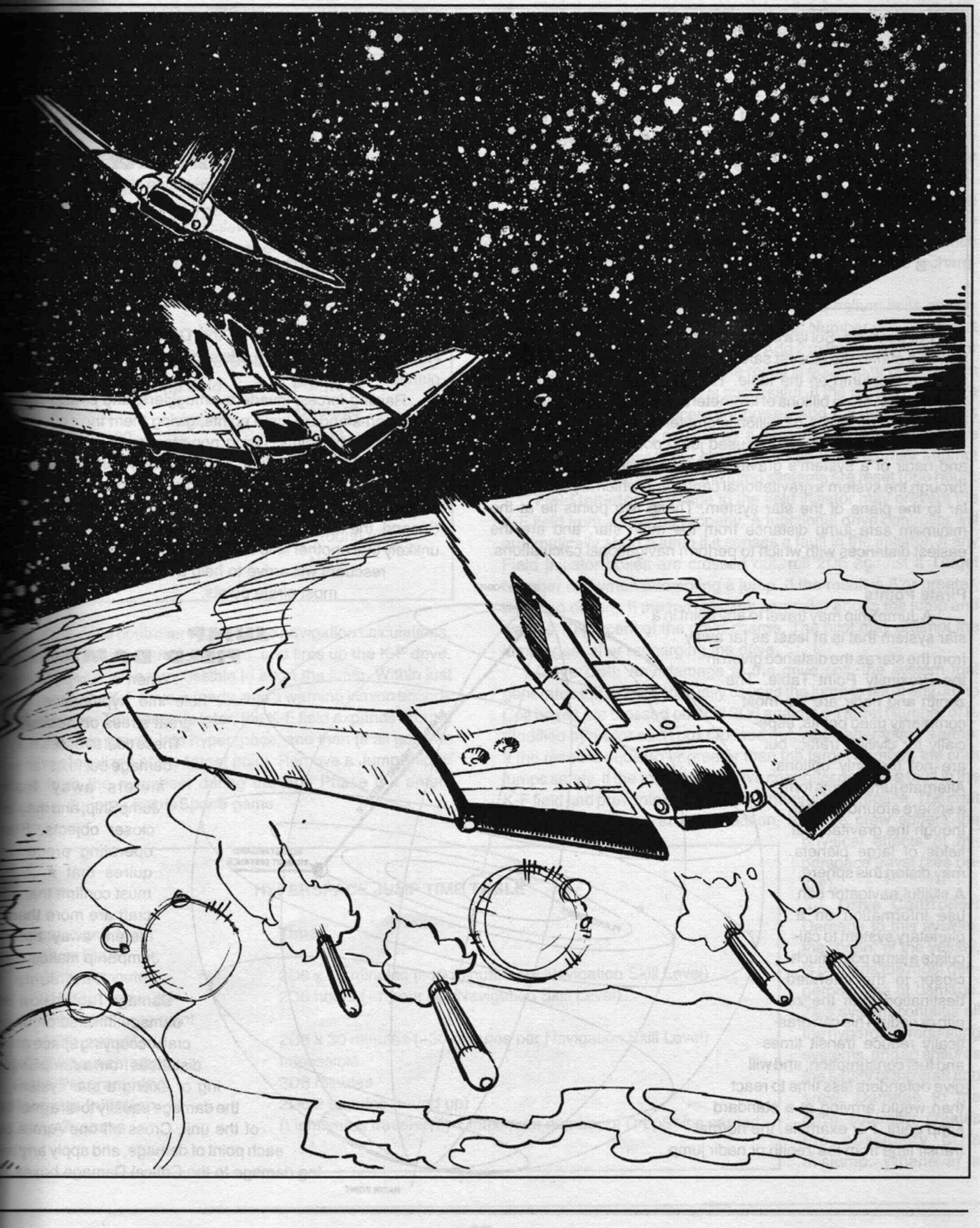
The rules for **BattleSpace** campaign operations expand on the basic and optional **BattleSpace** rules, and provide additions to the rules for **MechWarrior, Second Edition** and **BattleTroops**. Some elements of the rules assume that **MechWarrior, Second Edition**, statistics are available for a craft's pilot. If such statistics are not available, assume Gunnery and Piloting Skill Levels of 4. The rules in this section are arranged in roughly the same order as a planetary campaign takes place; the ships jump into the system, find out what else is there, rendezvous with the rest of their force, fight their way to the planet's surface, and drop and retrieve troops. This section also covers the universal campaign concerns of cargo transfer, maintenance and repair, and crew.

HYPERSPACE TRAVEL

JumpShips travel through hyperspace by means of the Kearny-Fuchida jump drive. The K-F drive operates by opening a hole into hyperspace and moving the JumpShip through this hole to another location in rational (real) space. The **Naval Technology** section of the **BattleSpace Sourcebook** explains the principles by which the K-F drive functions. *A JumpShip may travel up to 30 light years every time it jumps.*

JUMP POINT

To perform a jump safely, a JumpShip must be free of gravitational influences, and so must maintain a safe distance from a system's star and any planets. In fact, all Kearny-Fuchida drives are manufactured with a built-in, tamper-proof safety mechanism that prevents a JumpShip from arriving in-system closer to the primary star than is safe. The terms "proximity point" or "jump point" refer to points from which a JumpShip can safely enter hyperspace. The minimum safe distance from a star varies considerably, depending on the star type. The Proximity Point Table gives the minimum safe distance from each class of star.



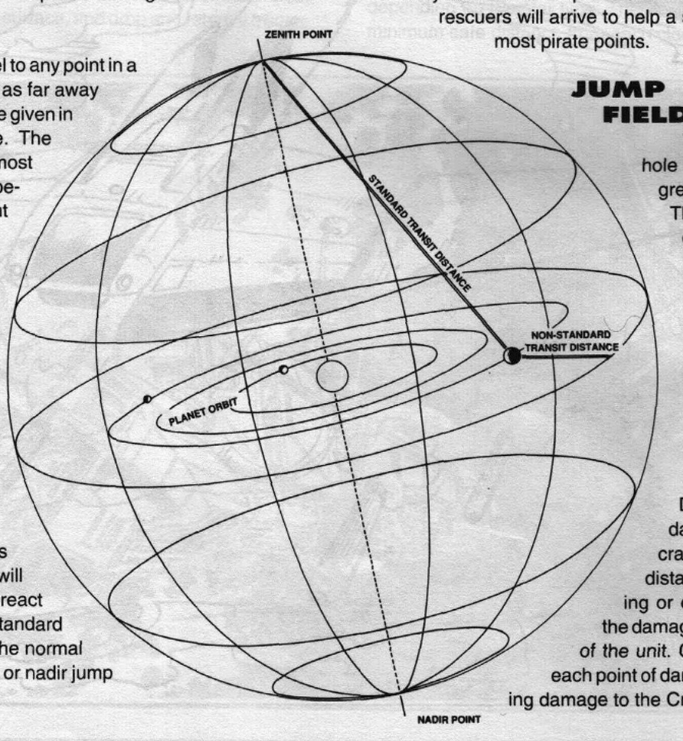
PROXIMITY POINT TABLE

(Distances in billions of kilometers)

Star	Star Subtype									
Type	0	1	2	3	4	5	6	7	8	9
M	.18	.16	.15	.13	.12	.11	.10	.09	.08	.07
K	.55	.49	.43	.39	.34	.31	.28	.25	.22	.20
G	1.99	1.74	1.52	1.33	1.16	1.02	.90	.79	.70	.62
F	8.80	7.51	6.43	5.51	4.74	4.08	3.52	3.04	2.64	2.29
A	48.59	40.51	33.85	28.36	23.82	20.06	19.63	14.32	12.15	10.32
B	347.84	282.07	229.40	187.12	153.06	125.56	103.29	85.20	70.47	58.44

For example, Sol is a class G2 star. To determine the distance from the star to the closest safe jump point, cross-index the G row with the 2 column on the table. The result is 1.52. Because the figures given are in billions of kilometers, the closest safe "jumping" distance from Sol is 1.52 billion kilometers.

The two most commonly used jump points are at the zenith and nadir of a system's gravity well, along the line that passes through the system's gravitational center and which is perpendicular to the plane of the star system. These two points lie at the minimum safe jump distance from the main star, and are the easiest distances with which to perform navigational calculations.



Pirate Points

A JumpShip may travel to any point in a star system that is at least as far away from the star as the distance given in the Proximity Point Table. The zenith and nadir are the most commonly used points, especially for civilian traffic, but are not the only options. Alternate jump points form a sphere around the star, though the gravitational fields of large planets may distort this sphere. A skillful navigator can use information on a planetary system to calculate a jump point much closer to the intended destination than the zenith or nadir. This can drastically reduce transit times and fuel consumption, and will give defenders less time to react than would arriving at a standard jump point. For example, the normal transit time from the zenith or nadir jump points of Luthien, capital of the Draconis Combine, is 8 days However, a pirate point exists only eleven hours out from the planet.

Raiding forces, invaders, smugglers, and pirates mainly use these non-standard jump points, giving them their common nick name of pirate points. Using non-standard jump points has two major disadvantages. First, the necessary calculations take a lo longer to perform because many more factors must be taken int consideration than when calculating for a zenith or nadir poin Second, the almost infinite number of pirate points makes it ver unlikely that another ship would ever arrive at or near that point. N rescuers will arrive to help a ship suffering drive failure a most pirate points.

JUMP FIELD DAMAGE

When a JumpShip opens a hole into hyperspace, it places great stress on nearby objects These tidal stresses may caus damage out to as far as 2,00 meters away from th JumpShip, and may destro closer objects. Standar operating procedure re quires that a JumpShi must confirm that all othe craft are more than 2,00 meters away before th JumpShip makes a jump.

The Jump Fiel Damage Table below lists th damage inflicted on objects o craft occupying space at variou distances from a JumpShip ente ing or exiting a star system. Appl the damage equally to all armor facing of the unit. Cross off one Armor box fo each point of damage, and apply any remain ing damage to the Critical Damage boxes.

Each fighter in a unit takes damage from proximity to a jump field. Multiply the appropriate damage given in the table by the number *of armor rows remaining.*

All individuals on board vessels damaged by proximity to a jump field receive injuries. Each person takes a number of points of damage equal to the ship's damage multiplied by 10.

MAKING THE JUMP

Before a JumpShip enters hyperspace, the crew must perform a number of tasks. The first is to make the navigation calculations for the jump, and feed these calculations into the drive controller. These calculations are much simpler when a craft jumps to or from the zenith or nadir jump points, and thus the calculation time is shorter.

JUMP FIELD DAMAGE TABLE

Distance from jump field (in meters)	Points of Damage
Less than 100	3D6
100–249	2D6
250–499	1D6
500–999	1D6/2 (round up)
1,000–2,000	1D6/3 (round up)
2,000+	None

Once the drive controller receives the navigation calculations, the system initiates the jump program, and fires up the K-F drive. At this point, it becomes impossible to abort the jump. Within just a few minutes, the K-F drive is ready, and a warning klaxon sounds through the ship. Ten seconds later, the K-F field expands around the ship, the ship moves into hyperspace, and then (if all goes as planned) materializes at the target point. Remove a JumpShip or WarShip from the mapsheet during the End Phase if it enters hyperspace during a **BattleSpace** game.

HYPERSPACE JUMP TIME TABLE

Calculations for:	Time:
Zenith or Nadir	
With computer	2D6 x 10 minutes (–10 minutes per Navigation Skill Level)
Without computer	2D6 hours (–1 hour per Navigation Skill Level)
Non-standard jump point	
With computer	2D6 x 30 minutes (–30 minutes per Navigation Skill Level)
Without computer	Impossible
Drive Programming	3D6 minutes
Program Initiation	2D6/2 minutes (round up)
Jump Process	(Light years traveled/2) x maximum number of DropShips carried

Find the exact time required for the jump using the Hyperspace Jump Time Table below. The minimum time to perform the navigation calculations is 10 minutes with a computer, and 1 hour without.

K-F Drive Damage

Damage to the K-F drive may increase the time required for the jump, or may decrease the likelihood of a successful jump. Five major systems can take damage.

Drive Charging System: Damage to the drive charging system does not affect the jump itself, but will affect the time required to recharge the K-F drive to make the jump. For each Charging System box crossed out, add 10 percent to the recharging time.

Helium Tank: The K-F drive uses liquid helium in its power-storing system. Roll 2D6 against a Target Number of 5 to attempt a jump with a damaged helium tank. Add 2 to the target number for each Tank box crossed out. If the result is equal to or greater than the target number, the jump is successful. If the roll fails, the drive does not receive the necessary power, and the JumpShip goes nowhere. The failure caused by a damaged helium tank occurs before the drive uses any charge, and so the ship may attempt another jump as soon as all the jump systems are reset (one hour).

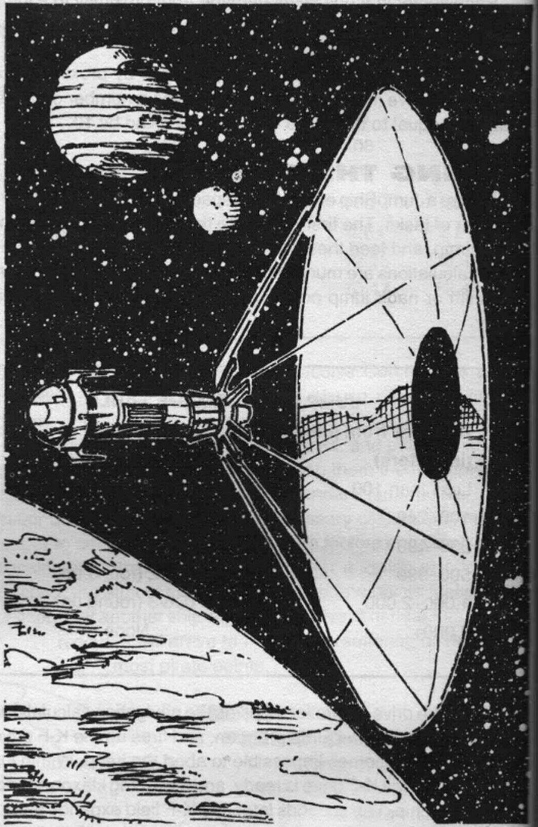
Field Initiator: Damage to the field initiator may prevent the K-F field from activating properly. A functional drive controller will automatically abort a jump if it senses a fault in the initiator. If any Field Initiator boxes are crossed out, roll 2D6 against a Target Number of 8 when attempting a jump. If the result is 8 or greater, the jump occurs. If the roll fails, the controller aborts the jump and wastes 10 percent of the drive charge. The pilot may attempt the jump again after recharging the drive.

Drive Coil: Any damage to the drive coil, the system that generates the K-F field, usually causes the jump to fail. If any Jump Coil boxes are crossed out, roll 2D6 against a Target Number of 9, modified by +1 for each box crossed out, when attempting a jump. If the result is equal to or greater than the target number, the craft jumps safely. If the roll fails, the drive controller detects a fault in the K-F field and prevents the ship from entering hyperspace. The craft loses all its charge in this situation, and the crew suffers the physical effects of hyperspace travel (see below).

Drive Controller: Damage to this system, the "brain" of the vessel, is perhaps the most dangerous type of damage. This system contains all the hyperdrive regulating systems, and so ensures the safety of the craft and crew. Damage to the drive controller creates the possibility of a misjump. Whenever a ship with drive controller damage attempts to jump, roll 2D6 against a Target Number of 6, modified by +1 for each additional Drive Controller, Drive Coil, or Field Initiator box crossed out. If the roll succeeds, the JumpShip arrives safely at its destination (other systems permitting). If the roll fails, determine the Margin of Failure and consult the Failed Jump Table.

FAILED JUMP TABLE

Margin of Failure	Effect
1	**Successful jump.** Drive coil takes 1box of damage.
2	**Successful jump.** Drive coil takes 1 box of damage. Drive controller destroyed.
3	**Off course.** The jump was successful, but the ship missed the destination by a large margin. Add 2D6 x 10 percent of the original calculated in-system distance to the travel distance. Drive coil takes 1 box of damage.
4	**Off course.** The jump was successful, but the ship missed the destination by a large margin. Add 2D6 x 10 percent of the original calculated in-system distance to the travel distance. Drive coil destroyed.
5	**Misjump.** The craft did not arrive at its intended destination. Drive coil takes 1 box of damage. In a **MechWarrior, Second Edition** game, the gamemaster should determine the distance to the nearest star system. Any craft that misjump during a **BattleSpace** game are destroyed.
6+	**Misjump.** The craft did not arrive at its intended destination. Drive coil destroyed. In a **MechWarrior, Second Edition** game, the gamemaster should determine the distance to the nearest star system. Any craft that misjump during a **BattleSpace** game are destroyed.



JUMP SAIL RECHARGING

Under normal circumstances, a JumpShip recharges its K-F drive with energy collected via its huge energy-collector sai Deploying the jump sail is a delicate procedure, as the sail is ver fragile. Deployment usually takes 80 minutes. Equal care must b given to furling the sail; this operation usually takes 160 minutes When deploying (or furling) a sail, the controlling player should ro 2D6. A result of 3 or more means the sail was successfull deployed (or furled). If the result is 1 or 2, the sail takes 1 point o damage. Increase the target number by 3 for each 10 minutes less than the recommended time that is taken to deploy or retrieve th sail. Reduce the target number by 1 for each 10 minutes added t the recommended time.

Find the amount of time required to recharge the K-F driv *using the jump sail by cross-referencing* the star type from whic energy is being collected with its subtype on the Jump Sa Recharging Table. This time is the minimum required, and increases by 10 percent for each point of damage the chargin system or the jump sail is currently suffering.

JUMP SAIL RECHARGING TABLE

(Results in hours)

Star	Star Subtype									
Type	0	1	2	3	4	5	6	7	8	9
M	201	202	203	204	205	206	207	208	209	210
K	191	192	193	194	195	196	197	198	199	200
G	181	182	183	184	185	186	187	188	198	190
F	171	172	173	174	175	176	177	178	179	180
A	161	162	163	164	165	166	167	168	169	170
B	151	152	153	154	155	156	157	158	159	160

QUICK CHARGE TABLE

Time Spent Charging (in hours)	Target Number
150+	2
125–150	3
100–124	4
75–99	5
25–74	6
22–24	7
20–21	8
19	9
18	10
17	11
16	12
15 or less	NA

A JumpShip may recharge its drive using methods other than the jump sail. The same process can be accomplished using the ship's power plant. Charging this way may be faster than using a solar sail, and the rate of charging does not depend on the star type. The delicate machinery of the K-F drive does not tolerate such treatment well, however, and may easily be damaged by this method of charging. Ships usually try to charge the drive at the same rate when using the power plant as when using the sail to avoid such damage. However, in some situations the ship may need to charge its drive more quickly; for example, if they know they are being pursued. If charging the drive using a rate faster than charging by sail, roll 2D6 after the ship commits to a jump, and consult the Quick Charge Table. This table provides a target number for a successful jump based on the time taken to charge the drive with the ship's power plant.

If the result is equal to or greater than the target number, the jump is successful. If the roll fails, consult the Quick Charge Failure Table.

A quick charge from the ship's power plant is not the only alternative to charging the drive by jump sail. A second alternative exists in many star systems, where recharging stations offer their services at the zenith or nadir jump points. These stations maintain huge power storage and collection facilities. Each station offers between four and six power banks, each capable of giving a JumpShip one full charge. Power is transferred to the JumpShip one of two ways. In the first method, the JumpShip deploys its jump sail and the station beams the power to the JumpShip. This option takes 150 hours. The second method requires that the JumpShip dock with the station. Once docked, the station quick-charges the JumpShip, but with the same potential for damaging the drive as if the JumpShip used its power plant.

One final option, which has been returning to use over the last decade, is the expensive lithium-fusion battery. This Star League-era system acts as a second energy storage system capable of directly powering a K-F drive. However, few military craft are so equipped, and no civilian vessels are known to carry this power system. If fully charged, a lithium-fusion battery enables a JumpShip to make a second hyperspace jump without recharging the K-F drive. The lithium-fusion battery can be charged using any of the above methods. If the battery is quick-charged, roll 2D6 and consult the Quick Charge Table. A failed roll means the battery is destroyed and its charge lost.

QUICK CHARGE FAILURE TABLE

2D6 Result	Effect
2	40% charge lost
3	60% charge lost
4–5	80% charge lost
6–7	100% charge lost
8	100% charge lost. Charging system takes 1 box of damage.
9	100% charge lost. Field initiator takes 1 box of damage.
10	100% charge lost. Drive coil takes 1 box of damage.
11	100% charge lost. Drive controller takes 1 box of damage.
12	100% charge lost. Drive coil destroyed.

PHYSICAL EFFECTS OF HYPERSPACE TRAVEL

Some people suffer adverse effects whenever a craft jumps through hyperspace, even when the jump is successful. Roll 2D6 for each character. If the dice roll result is a double (both numbers identical), that character becomes nauseous every time the ship he or she is on jumps. Such characters should make a Build Saving Roll. A failed roll indicates the character will suffer a +2 penalty on all skill rolls for 15 minutes after the jump. Characters who make a successful Build Saving Roll will suffer a +1 penalty for all skill rolls for 5 minutes after the jump. All characters suffer a +1 modifier to their skill rolls for 1 minute after a hyperspace jump.

DETECTION

When a JumpShip arrives in-system, it automatically advertises its presence with both an electromagnetic pulse and a localized infrared (IR) signature. Only craft in relatively close proximity to the arriving JumpShip (approximately 50,000 kilometers) can detect the IR signature. Any combat-capable craft detecting the IR signature can easily pinpoint, identify, and engage any hostile vessels arriving in-system.

The electromagnetic pulse can be detected at much longer range. However, because the pulse radiates out from the ship's arrival point at the speed of light, ground-based sensors may not detect a ship until several hours after it arrives in-system. As a result of this delay, a detected electromagnetic pulse only indicates the general position of the JumpShip and any DropShips it carries. In addition, as it spreads the signal becomes steadily more diffuse, and often cannot be detected beyond a distance of 15 AU (1 Angstrom Unit = about 150 million km). This phenomenon prompts most Houses to maintain small response-forces at "listening" posts throughout key systems.

DropShips are harder to detect than JumpShips, but if found, can be tracked. The active radar system of any vessel can detect and track any other craft within approximately 100,000 kilometers. However, it is possible to detect radar emissions out to approximately 1,000,000 kilometers. The obvious solution would seem to be for DropShips to travel without using radar. After all, the radar system cannot "see" very far, but can be detected at long distances. However, radar serves a more vital purpose than simply detecting hostile ships: it also serves to warn the operating crew of any obstacles in the ship's flight path. A collision with an object of any size when traveling at tens of thousands of kilometers per hour is like being shot with a very large (and fast) Gauss rifle—the results would be devastating. The DropShips use their radar to avoid these obstacles and aim the meteorite-defense systems used to destroy very small space debris. Deactivating their radar also does not prevent anyone within 3,500,000 kilometers from detecting the electromagnetic emissions (radiation and light) of the DropShip's transit drive, and so only a stationary DropShip is likely to deactivate its radar.

The following rules put the above principles to work in **BattleSpace**. To begin with, **BattleSpace** assumes that any military craft will not emit an identifying IFF (Identify Friend or Foe) signal, and will be operating under EMCON (EMission CONtrol, c radio silence) orders. Any unit not operating under EMCON, or wi an active IFF transponder may be tracked by any DropShips c JumpShips in the same system. Fighter units' detection arrays lac the power needed to detect and track hostile units, and must b "vectored" toward a target by the flight controllers on their hom carrier. The radar unit carried by most fighters has an effectiv range of approximately 1,000 kilometers (55 hexes).

A JumpShip arriving in-system will be automatically detecte by any units within 10,000 kilometers. Only military DropShips c JumpShips can detect a JumpShip arriving at greater distance For JumpShips arriving at distances of greater than 10,000 kilometers from any unit currently occupying the system, the players c any military craft other than fighters must roll 2D6 to see if the detect the arriving JumpShip. The target number is equal to 7 plu one-half the distance from the JumpShip (in AU), rounded u Modify the target number by subtracting a number equal to the su of the arriving craft's K-F drive integrity plus the number of DropShip carried (see descriptions in **Large Craft**, p. 43 of the **BattleSpac Sourcebook**), divided by 10 (round up). Each unit may make on one attempt to detect each target unit. The maximum range a which a ship can be detected is 15 AU. Detection may only occ after the JumpShip arrives in-system; because the electromag netic pulse travels at the speed of light (314,000 km per second it will take the pulse approximately 8 minutes to travel 1 AU.

A DropShip is 3 AU from an arriving *Invader* class JumpShip. If the DropShip attempts to detect the JumpShip, it will succeed on a 2D6 result equal to or exceeding the base Target Number of 7 plus 2 (1.5 for distance, in AU, rounded up) and minus 1(the sum of the Drive Integrity of 4 and the DropShip capacity of 3, divided by 10 and rounded up), for a modified Target Number of 8. If the DropShip successfully detects the JumpShip, it will become aware of its position 24 minutes (8 minutes x 3 AU) after the JumpShip arrives.

Any craft with an active radar system may attempt to dete any objects (including units) within 100,000 kilometers. Roll 2D against a Target Number of 6. If the detecting unit is a milita DropShip, a WarShip, or a JumpShip attached to a military un subtract –2 from the target number. Increase the target number b +1 for each Radar Critical Damage box crossed out. Once de tected, an object will remain detected as long as it remains with 100,000 kilometers of the detecting craft. Each unit may make on detection attempt against each target per hour.

Military craft will automatically detect any craft with activ radar within 150,000 kilometers. Most civilian craft lack the neces sary ECM (Electronic CounterMeasure) systems to detect rad emissions, and may not detect ships using this method.

Any unit may detect the exhaust plume of any other un actively using its drive. The plume, seen as a moving point of ligh provides information on the thrusting unit's heading, velocity, an distance from the detecting craft. The Target Number for detecting a thrusting unit is 5, modified by +1 for every 50,000 kilometers of distance away from the detecting craft. The detection limit for distance does not reflect how far a craft can "see," but the distance at which the motion of the unit becomes apparent. Each unit may make a roll to detect another unit's drive emission once per hour.

Once a unit has been detected, the player may send defending fighters to intercept the hostile unit.

DEEP-SPACE RENDEZVOUS

Deep-space rendezvous is difficult for any DropShip pilot to accomplish successfully. Though similar to system transit, the "target" area is much smaller, and the destination point may be mobile. Because of the number of variables, it is almost impossible to achieve a successful deep-space rendezvous without a ship's computer.

To estimate the time required to reach the destination and the fuel used, treat the target as stationary and use the system transit rules on p. 52. The player makes a Piloting/Spacecraft Skill Roll, adding +3 to the pilot's target number (e.g., a Target Number of 4 becomes a Target Number of 7). For every point by which the Skill Roll result exceeds the target number, subtract 1 percent from all travel times and fuel usage. If the roll fails, add 5 percent for every point of failure to the travel time and fuel consumption. For each box in the navigation system crossed out, add +2 to the target number. If all the Navigation boxes are crossed out, modify the target number by +5. For each box of damage to the computer system, add –1 to the target number. If the maneuvering DropShip maintains constant radio contact with the target ship, reduce the target number by 1.

DOCKING

Docking with another vessel is one of the most difficult and dangerous operations a JumpShip or DropShip can perform. One unit, the target, remains stationary or maintains a constant velocity, while the second unit does all the work. The following docking rules assume that the two units wish to dock. Before making a hostile docking attempt (see **Boarding Actions**, p.37 in **Optional Rules**), the attacker must disable the drive unit of the target craft. Even a disabled craft may resist boarding, as the crew may fight to avoid being boarded.

Docking normally takes about 30 minutes, but may take longer, either because the docking collar is damaged, or because the pilot chooses to dock more slowly to increase the likelihood of a safe and successful attempt. A ship may also attempt to dock more quickly than half an hour, but this increases the difficulty.

A DropShip docking with a JumpShip requires one docking hardpoint for every 60,000 tons of mass. Any DropShip docked with a JumpShip that has a working K-F boom may be transported through hyperspace.

Docking requires absolute accuracy; pilots always use the unit's computer and radar to provide the precise control required for this maneuver. A ship attempting to dock must be in the same **BattleSpace** hex as the JumpShip, and with the same heading and velocity. Roll 2D6, using the pilot's Piloting/Spacecraft Skill as the target number, modified for the conditions listed below. A result equal to or greater than the target number means the docking attempt succeeded. *If the result is lower than the target number, the* docking attempt was unsuccessful, and the ship has caused damage. Determine the difference between the target number and the 2D6 dice roll result and consult the Docking Damage Table on p. 50 for the effects of the mishap.

DOCKING MODIFIERS TABLE

Docking Conditions	Target Number Modifier
Maneuvering thrusters damaged	+1 per box of damage
Docking during combat	+2
Docking unit is JumpShip	+4
Docking unit is WarShip	+3
Docking unit is DropShip over 20,000 tons	+2
Docking unit is DropShip under 5,000 tons	–1
Per 15 minutes added to docking time	–1
Per 5 minutes subtracted from docking time	+1
Radar damage	+1 for one box of damage, +3 for two
Computer damage	+1 per box of damage
Trained docking pilot used	–2
Docking collar damaged	Double docking time

DOCKING DAMAGE TABLE

Margin of Failure	Effect
0	**Docking successful.**
1	**Docking successful.** Both docking collars damaged (cross out one box).
2	**Docking unsuccessful.** Craft miss each other. The pilot may attempt to dock again in 10 minutes.
3	**Docking unsuccessful.** Both docking collars take damage (cross out one box). The pilot may attempt to dock again in 10 minutes.
4	**Docking unsuccessful.** Docking unit takes 1 point of damage to its nose. Target unit takes 1 point of damage to its side (if the target is a JumpShip, the controlling player decides which side takes damage) or nose (for a DropShip). The pilot may attempt to dock again in 10 minutes.
5	**Docking unsuccessful.** Docking unit takes 2 points of damage to its nose. Target unit takes 2 points of damage to its side (JumpShip), or nose (DropShip).The pilot may attempt to dock again in 10 minutes.
6	**Docking unsuccessful.** Docking unit takes 3 points of damage to its nose. Target unit takes 3 points of damage to its side (JumpShip), or nose (DropShip). Both docking collars take damage. If either craft is a JumpShip or WarShip, apply 1 point of damage to the helium tank (cross out any Helium Tank box).
7	**Docking unsuccessful.** Docking unit takes 5 points of damage to its nose. Target unit takes 5 points of damage to its side (JumpShip), or nose (DropShip). The impact destroys both docking collars. If either craft is a JumpShip or WarShip, apply 2 points of damage to the helium tank (cross out any 2 Helium Tank boxes).
8+	**Docking unsuccessful.** Docking unit takes 10 points of damage to its nose. Target unit takes 10 points of damage to its side (JumpShip), or nose (DropShip). The impact destroys both docking collars. If either craft is a JumpShip or WarShip, apply 5 points of damage to the helium tank (cross out any 5 Helium Tank boxes).

A successful contact between the docking ships means th docking collars lock the two ships together. Cargo and passenge may transfer between the two craft.

Un-docking requires no special rolls or rules. However, a u attempting to un-dock from an Out-of-Control unit must make Control Roll to avoid adverse effects (see **Control Rolls**, p. 12 Movement).

MOVING DAMAGED CRAFT

Badly damaged vessels commonly cannot travel under the own power to a dry dock for repairs, but must be "towed" to suitable facility. Because their superheated exhaust plume prohi its towing, specially modified DropShips push crippled craft suitable facilities. These "tugs" attach themselves to the damage vessel using a special reinforced adapter that does not require th target ship to have a functioning docking collar. Using its engi and thrusters to maneuver the two craft, the DropShip the carefully pushes the damaged DropShip (or occasionally JumpSh to a nearby orbiting facility, or to the nearest jump point. Becaus of the risk of damage to both craft, a DropShip never expends mo than 1 Thrust Point per turn during this maneuvering, making th a very slow operation. Players can calculate the tug's Safe Thru Value while pushing a damaged vessel by multiplying the tug tonnage by its Safe Thrust Value and dividing the result by th combined tonnage of the tug and load.

Once it has maneuvered itself into position, the tug can the attach itself and its load to a JumpShip for transport to oth systems if required. For every 60,000 tons (round up) of combine weight, the tug and its load take up one docking collar on th JumpShip. JumpShips may not transport other JumpShips. If th needed repairs on a ship cannot be made in its current system crews strip damaged JumpShips of all usable parts. The tug the pushes the remaining hulk into a decaying orbit around the system star, so that it will eventually burn up on re-entry.

LAUNCHING/RECOVERING SMALL CRAFT

Small craft, i.e., fighters and shuttles, do not dock with larg units, but instead land on a launch-and-recovery bay within a larg unit. The transporting unit technically "recovers" these craft, and s **BattleSpace** uses the term recovery rather than the term landin to refer to small craft returning to a larger unit. The term landin refers to craft landing on a planet's surface. While the transportin ship travels to and from its destination, these small craft remain protective storage cubicles located in or near the launch-an recovery bay. These cubicles provide the necessary equipment refuel and rearm the craft, and load cargo and passengers. Se **Cargo**, p. 56, for rules for loading and unloading cargo.

Refueling and re-supplying a craft takes about 10 minutes. A in any efficient military operation, all small craft are refueled and re supplied each time they return to storage to reduce launch time

To launch a small craft, the transporting vessel must b "coasting," moving without changing course or velocity. Small cra

[illegible] launch while the transporting vessel is accelerating, as long as the ship moves straight ahead during the turn in which the craft launch. The effect of this maneuver on the small craft is similar to an object being pushed off a cliff; the craft appear to fall away from the transport. It takes 5 minutes to launch a prepared craft, most of which is spent maneuvering the craft into the launch bay and performing last-minute checks. Two small craft may exit each bay door in each Game Turn. If launching a unit of fighters takes more than one turn, place the unit on the mapsheet when the last fighter exits the launch bay. Small craft may not launch from an Out-of-Control unit, or a unit operating in atmosphere at a Velocity higher than 2.

BattleMech units also may launch from a DropShip and descend to the planet's surface according to the procedure outlined in **Dropping Troops**, p. 39. 'Mech units may exit a DropShip in space or atmosphere, and will fall under the influence of gravity. Battle-suited units may only launch from DropShips in atmosphere. DropShips moving through atmosphere must have a Velocity of 2 or less in order to launch 'Mechs or battle-suited infantry. It takes [illegible] minutes to fit a thruster pack to a non-jump-capable 'Mech, and [illegible] minutes to fit a 'Mech into an ablative cocoon and drop pod for [illegible] launch. An actual BattleMech launch takes 1 minute. In each Game Turn, one prepared BattleMech may exit each functional bay door. Battle-suited units are automatically equipped to launch and [illegible] a DropShip, usually by jumping out a cargo-bay door, at the rate of 75 infantry per minute.

To recover small craft, the unit on which the craft are to land must shut down its drive (expend no thrust) until all craft have landed. Most units prefer to recover small craft after rather than during combat, as a drifting ship is easy prey for enemy aerospace fighters and DropShips. Make a Control Roll by rolling 2D6 against a Target Number of 4 for each unit (individual shuttle or fighter unit) in the turn of recovery. Players make this roll for a fighter unit in the turn in which its last fighter lands. Increase the target number by 5 for each turn during the landing in which the target (recovering) unit expends thrust. The unit lands successfully if the Control Roll result is equal to or greater than the target number. If the result is less than the target number, apply 2 points of damage to the landing unit for each point of the Margin of Failure. Each operational bay door can accommodate two small craft landing per minute. Remove a fighter unit from the mapsheet when the last of the unit's fighters lands.

The unit attempting to land must also maneuver to maintain a heading and velocity identical to the target craft. If the unit on which the craft are landing turns to a new heading, any craft attempting to land must make a Control Roll against a Target Number of 6 to avoid being destroyed. If a fighter unit has landed only some of its craft when the target unit turns, the player must make a Control Roll against a Target Number of 6 for the remaining fighters. A failed Control Roll means any fighters of that unit waiting to land are destroyed.

In order for a shuttle to land on an accelerating DropShip, the player must make a Control Roll equal to or higher than a Target Number of 9 (Target Number 4 + 5 for target unit thrusting). For a fighter unit that must land during two turns on a DropShip that is accelerating during both turns, the die roll result must be equal to or higher than a Target Number of 14 (the unit will automatically take 4 points of damage).

A DropShip may maneuver to recover small craft that run out of fuel or lack thrust capability (e.g., lifeboats, escape pods). The unit attempting the recovery must enter the hex of the unit being recovered, and match velocity and heading. An attempt to recover one craft takes 5 minutes. Roll 2D6 at the end of the five-minute recovery attempt. If the result is equal to or greater than 4, the craft is safely recovered. A result of less than 4 indicates some kind of delay in recovering the unit. The recovering unit can make another attempt in 5 minutes. No damage occurs to either unit.

RECOVERING FIGHTER CASUALTIES

Every row of armor crossed out on a Fighter Unit Record Sheet represents a fighter from that unit that may have been destroyed. To determine if a fighter survives and can be recovered, roll 1D6 for each armor row crossed off. If the result is a 5 or a 6, the fighter survives and can be repaired before the next major engagement. A result of 1 to 4 means the fighter was destroyed. To recover a damaged fighter, the recovering unit must enter the hex of the unit being recovered and match velocity and heading. An attempt to recover one fighter takes 5 minutes. Roll 2D6 against a Target Number of 4 to attempt the recovery. If the result is equal to or greater than 4, the fighter is safely recovered. A failed roll means the recovering unit must wait 5 minutes and try again. Players should also attempt to recover the pilots of destroyed units. Roll 1D6. A result of 6 means the pilot survives and can be recovered with his fighter. Where records exist of the unit composition, determine the destroyed fighter randomly, and recalculate the actual strength of the fighter unit.

SYSTEM TRANSIT

After arriving in-system, a DropShip carrying troops or materiel must travel from its point of arrival to the target planet. This deep-space transit usually takes several days, depending on the distance between the point of arrival and the planet. Determine the transit time between two such points in space using the following formula:

$$T = 2\sqrt{(2 \times (D/A))}$$

D is the distance from the starting point to the midway point (in kilometers), and A is the acceleration rate (in kilometers per hour per hour. 1G = 127,008 km/hr/hr (9.8 m/sec./sec.). The result
is in hours. The Proximity Point Table in the **Hyperspace Tra**
section, p. 44, provides the distance in billions of kilometers fr
a standard jump point to a planet.

FUEL CONSUMPTION

Though unimportant in tactical situations, fuel becomes
important factor in a strategic campaign. Each DropShip u
carries a number of tons of fuel, which it must use to acceler
decelerate, and change heading. Individual craft use fuel at diff
ent rates. **BattleSpace** uses a unit called a burn-day to indicate
rate of fuel consumption. One burn-day is the amount of f
consumed by a unit accelerating at a constant rate of 1 G for o
day. Determine the amount of fuel used by DropShips in syst
transit using the following formula:

$$F = T \times A$$

T is the total number of days that the engine has been burni
and A is the average acceleration, expressed in Gs. The result
is the number of burn-days of fuel used. Consult the descriptio
each craft in **Large Craft** , p. 43 in the **BattleSpace Sourcebo**
and multiply the result (F) by the indicated tons per burn-day
determine how much fuel the ship used in system transit.

Fuel (Optional Rule)

Players may add the following fuel rules to the standa
BattleSpace rules. Each point of thrust used will consume o
point of fuel from the DropShip's reserve. The number of F
Points available per ton of fuel varies from ship to ship. See **La**
Craft, p. 43 in the **BattleSpace Sourcebook**, for specific inform
tion for each craft. The fuel consumption determined in this man
will seem excessive, especially compared to the amount of f
used during transit, but keep in mind that each DropShip has t
fuel systems.

The first system is simple, requiring minimal maintenan
This system pumps small amounts of fuel into heated stor
tanks. The temperature causes the fuel to expand, and the res
ing increase in pressure feeds fuel into both the engine cores a
the power plant's fusion reactor. This efficient system supplies f
at a constant rate, as required during system transit, but can
supply the surges in fuel demand required during combat man
vering.

The second fuel system uses high-speed pumps to maint
the constant fuel pressure required by the fusion reaction. T
system, functioning like a sports car's turbo-charger, suppl
enough fuel to provide the short bursts of high-G thrust required
maneuver the craft during combat, but at the expense of f
efficiency.

Fighters lack the fuel-efficient temperature/pressure syst
of DropShips, and so cannot carry the fuel reserves necessary
system transit. For game purposes, fighters are incapable
system transit.

IN-FLIGHT REFUELING

The cargo holds of some specially equipped DropShips and JumpShips are converted to carry fuel tanks. Each cargo hold can carry a number of tons of fuel equal to the number of tons of cargo space available in that hold.

The fuel may be fed directly into the DropShip or JumpShip's own fuel tanks, effectively acting as a reserve tank; refuel fighters and small craft landing on the vessel; or refuel docked DropShips or JumpShips. A single tanker may fill all three roles, refueling itself, any small craft it carries, and any craft that docks with it.

If the cargo fuel tank supplements the craft's own fuel tanks, consume that fuel according to the ship's normal consumption. Use fuel from the reserve tanks before using any fuel from the DropShip's standard tanks.

It takes five minutes to refuel a small craft or fighter from the cargo-hold tanks, assuming the craft requires 5 tons or less of fuel. To refuel a small craft or fighter, the DropShip crew must hook the reserve tank into the DropShip's own fuel system, then pump that fuel into each fighter bay. The DropShip may also refuel craft from its internal tanks, keeping the cargo-hold fuel in reserve.

Any DropShip or JumpShip can refuel from another ship of that type if both vessels have functioning docking collars and transfer systems. Fuel transfers into the docking vessel's tanks (built-in or cargo-hold) at the rate of 1 ton per minute, unless the transfer system has sustained damage. With a damaged transfer system, it takes 2 minutes to transfer each ton of fuel.

If a cargo bay containing fuel takes damage during combat, treat that cargo bay as a reaction mass critical location (see **Critical Damage**, p. 20 in **Combat**).

PILOT MODIFIERS

Any pilot can take a ship through an interstellar journey with little difficulty. However, experienced pilots may be able to reduce the time and fuel required.

To calculate how much, if any, fuel and time the pilot's expertise saves the craft, roll 2D6 and compare the result to the pilot's Piloting/Spacecraft Skill. (If statistics are not available for the pilot, use a Piloting Skill of 4.) For every point by which the roll equals or exceeds the target number, subtract 1 percent from all travel times and fuel usage. If the roll fails, add 1 percent for every point of failure to the ship's travel time and fuel consumption. For each box of the navigation system crossed out for damage, add 2 to the target number. If all Navigation boxes are crossed out, modify the target number by 5. Damage to the computer will also affect the system transit time. For each Computer box crossed out, add +1 to the target number (see **Critical Damage**, p. 20 in **Combat**).

PLANETARY LANDING

Any units with a Velocity of 0 that end the turn in a Ground hex must attempt to land on any available space on the **BattleTech** maps that Ground hex covers. (Except see **Atmospheric Operations**, p. 33, for hovering.) **BattleSpace** units may make two types of landing, vertical and horizontal.

Vertical landing requires the least amount of space, but is the most difficult to perform, requires more fuel, and causes more ground damage. All spheroid DropShips and shuttles must land vertically. Aerodyne DropShips attempting to land on an airless world may also make vertical landings. For craft making vertical landings, reduce the terrain modifiers given in the Failed Braking Maneuver Table below by half. A craft landing vertically expends 1 ton of fuel hovering over the landing site. If a DropShip lands in any terrain other than an airfield, water, a road, or a concrete surface, the area becomes a Depth 1 crater.

Only fighters and aerodyne DropShips and shuttles may make horizontal landings. A DropShip needs a 600-meter (20 **BattleTech** hexes) runway on a flat surface to land horizontally. Fighters and shuttlecraft may land in a distance of 300 meters (10 **BattleTech** hexes). Fighters land as a unit. Every pilot must make a successful Piloting/Spacecraft (Piloting/Aerospace for fighters) Skill Roll to land.

Experienced pilots may safely land an aerodyne DropShip in a distance of less than 600 meters by tilting up the nose of the DropShip, cutting the aft drive, and using the bottom-mounted drive to provide braking thrust. To make this braking maneuver, the player controlling the pilot of the craft must roll 2D6 and compare the result to his character's Piloting/Spacecraft Skill. For a result greater than the skill level, reduce the required landing distance by 50 meters for each point of the Margin of Success. If the dice roll result is less than the target number, consult the Failed Braking Maneuver Table.

FAILED BRAKING MANEUVER TABLE

Margin of Failure	Effect
1–4	**Landing requires full distance.** The pilot may attempt to land normally, may circle and try again, or may attempt to land in a different area.
5	**The vessel must land.** However, the DropShip becomes harder to control. Add 1 to the pilot's Piloting/Spacecraft Skill.
6+	**The vessel must land, using all 600 meters.** The vessel automatically takes 2 points of damage on the nose and the landing gear is destroyed. Add 2 to the pilot's Piloting/ Spacecraft Skill.

Whether or not he attempts a braking maneuver, the pilot must make a Piloting/Spacecraft Skill Roll (Piloting/Aerospace for fighters and shuttles) when landing. To make this skill roll, apply the appropriate modifiers from the failed braking maneuver to the skill level, plus any applicable modifiers from the Braking Maneuver Damage Table.

BRAKING MANEUVER DAMAGE TABLE

Condition	Modifier to Skill Level
Maneuvering thrusters damaged	+4
Landing gear damaged	+3 per box of damage
Nose armor destroyed	+2
Craft reduced to 50 percent or less of starting thrust	+2
No thrust available (aerodyne craft)	+4
No thrust available (spheroid DropShip)	+8
Runway too short for craft	+2
Craft landing at manned, friendly airfield	–2
Craft landing at unmanned, friendly airfield	–1
Craft landing on road or paved surface	0
Craft landing on unfriendly airfield	+1
Craft landing in Open hex	+2
Craft landing in water or swamp	+3
Craft landing in Rough or Rubble hex	+3
Craft landing in Elevated/Building hex	+3
Craft landing in light woods	+4
Craft landing in heavy woods	+5

FAILED LANDING TABLE (DROPSHIPS)

Note: All spheroid craft take damage on the aft side rather than the nose.

Margin of Failure	Effect
1	**Landing gear destroyed.** Craft takes 1 point of damage on its nose.
2	**Landing gear destroyed.** Craft takes 2 points of damage on the nose. One bay door is destroyed.
3	**Landing gear destroyed.** Craft takes 2 points of damage on the nose, and 2 points on one side. Two bay doors are destroyed.
4	**Crash.** Any non-secured personnel take 2D6 points of Lethal damage. The crew must spend 1D6 minutes to free each 'Mech or vehicle.
5	**Crash.** All secured personnel take 2D6 points of Lethal damage. Non-secured personnel take 4D6 points of Lethal damage. Roll 2D6 for each 'Mech or vehicle. If the result is 10 or higher, the unit takes 8D6 + 10 points of damage, allocated in 10-point groups to the front of the unit. If the dice roll result is less than 10, the unit takes 2D6 points of damage. The crew must spend 2D6 minutes to free each 'Mech and vehicle.
6	**Crash.** All secured personnel take 6D6 points of Lethal damage. The crash kills any non-secured personnel. *Roll 2D6 for each 'Mech* or vehicle. If the result is 8 or higher, the unit takes 8D6 + 10 points of damage, allocated in 10-point groups to the front of the unit. If the dice roll result is less than 8, the unit takes 2D6 points of damage. The crew must spend 2D6 minutes to free each 'Mech and vehicle.
7	**Crash.** All secured personnel take 8D6 points of Lethal damage. The crash kills any non-secured personnel. Roll 2D6 for each 'Mech or vehicle. If the result is 7 or higher, the unit takes 10D6 + 10 points of damage, allocated in 10-point groups to the front of the unit. If the dice roll result is less than 7, the unit takes 2D6 points of damage. The crew must spend 3D6 minutes to free each 'Mech and vehicle.
8+	**Crash.** The craft explodes on impact. No personnel or equipment survive.

FAILED LANDING TABLE (FIGHTERS/SHUTTLES)

Margin of Failure	Effect
1	**Craft damaged.** Craft takes 1 point of damage.
2	**Craft damaged.** Craft takes 2 points of damage.
3	**Craft damaged.** Craft takes 4 points of damage.
4	**Craft crashes.** Ship destroyed. Passengers and crew escape. Cargo is salvageable.
5	**Craft crashes.** Ship destroyed. Passengers and crew take 1 row of damage (per **MechWarrior, Second Edition**) as they escape. Cargo is salvageable.
6	**Craft crashes.** Ship destroyed. Passengers and crew take 3 rows of damage (per **MechWarrior, Second Edition**) as they escape. Cargo is destroyed.
7	**Craft crashes.** Ship destroyed. Passengers and crew take four rows of damage (per **MechWarrior, Second Edition**) as they escape. Cargo is destroyed.
9	**Craft explodes on impact.** No survivors.

If the Piloting Skill Roll is successful, the craft touches down safely. If the roll fails, consult the appropriate Failed Landing Table.

When the result of a failed fighter or shuttle landing is damage to the craft or the craft is destroyed, apply the result given in the table to each craft in the unit. For example, if a unit containing 4 fighters fails to land safely, and the Margin of Failure was 3, apply [illegible] points of damage to the unit (4 points of damage x 4 fighters).

LIFTOFF

Aerodyne DropShips, fighters, and shuttles may lift off by accelerating along a runway (or other open ground) until they reach liftoff velocity. All craft need a runway at least 600 meters long. Aerodyne craft can use their bottom-mounted transit drives to provide enough lift for takeoff. A craft may not lift off if it has a Thrust of 2 or less, or cannot power its transit drive. Skill rolls are not required for horizontal liftoff.

Vertical liftoff is much more difficult, as DropShips tend to be very unstable at low velocity. Spheroid DropShips must lift off vertically; aerodyne DropShips may do so only on an airless world. Vertical liftoff requires the pilot of the craft to make a Piloting/Spacecraft Skill Roll, modified by the following conditions.

VERTICAL LIFTOFF MODIFIERS TABLE

Condition	Modifier
Landing gear damaged	+1
Maneuvering thrusters damaged	+3
Craft lifting off from a crater	+3
Computer damaged	+1 per box of damage
Door damaged	+1 per door jammed open
Drive damaged	+1 per box of damage
Craft lifting off from an airfield	–1

FAILED LIFTOFF TABLE

Margin of Failure	Effect
1–2	**Liftoff.** Vessel lifts off, but uses 1 additional ton of fuel.
3–4	**Landing gear damaged.** (Cross out 1 box). The pilot makes an unmodified Piloting/Spacecraft Skill Roll. If the roll is successful, the craft has lifted off. If the roll fails, the craft falls back to the ground, taking 2 points of damage on the aft side.
5	**Landing gear is destroyed.** The craft strikes the ground, causing 5 points of damage on the aft side. Each unsecured person on the craft takes 2D6 points of Lethal damage. The craft may not attempt another liftoff.
6+	**Landing gear is destroyed.** The craft suffers the results given above, but takes 10 points of damage on the aft side. All secured personnel take 1D6 points of Lethal damage. All unsecured personnel take 4D6 points of Lethal damage. The craft may not attempt another liftoff.

If the skill roll result equals or exceeds the pilot's skill level, place the unit in the appropriate Ground hex on the **BattleSpace** map. If the roll failed, determine the Margin of Failure and consult the Failed Liftoff Table.

CARGO

Both merchant and military craft must regularly transfer cargo and passengers. Whether conducted in space or on the ground, the goal of such a transfer is to load or unload the ship quickly, efficiently, and safely.

Most ships use crew members in industrial exoskeletons (IEs) to move cargo, though almost every cargo contains something that must be moved by hand. Some military units use BattleMechs to move cargo. To determine how quickly cargo can be moved out of or onto a ship (or between ships) under various conditions, consult the Cargo Transfer Table. Treat battle suits as industrial exoskeletons. Maneuvering cargo in zero-G is very difficult unless the cargo comes with maneuvering devices, such as null-G packs, attached. The amount of cargo that can be moved during any given period depends on the means of transfer and the conditions that currently apply to the craft.

CARGO TRANSFER TABLE

Equipment Used:	***Tons Transferred***
In zero-G	**(per minute)**
IE with null-G packs	.5
10 men in pressure suits	.5
2 men in pressure suits w/null-G packs	1
BattleMech in zero-G	Weight of cargo/30
In gravity	
IE	1
10 men	1
Heavy cargo platform	2
Light cargo platform	1
BattleMech	Weight of cargo/20
In gravity and vacuum	
IE	1
10 men in pressure suits	.75
Heavy cargo platform	2
Light cargo platform	1
BattleMech	Weight of cargo/20

Unloading cargo from one ship and loading it onto another doubles the total time required for the operation.

When working on the surface of a planet, BattleMechs, vehicles, and other military units may move out of the DropShip at the rate of one unit (individual 'Mech or vehicle, point of battle-suited infantry, or platoon of infantry) every 30 seconds. This number of units may exit each operational bay door.

> A crew must unload 100 tons of cargo from a DropShip sitting on a planet's surface. Because the planet has a breathable atmosphere, consult the In Gravity section of the table. Five battle suits are available for unloading, and 25 men. Five men pilot the battle suits, leaving 20 men available to move cargo by hand. Each battle suit can move 1 ton of cargo per minute. The men can move 2 tons of cargo per minute, for a total of 7 tons moved per minute. It will take 14.5 minutes to unload 100 tons of cargo.

MAINTENANCE

Spacecraft require almost constant maintenance. Many of the DropShips and JumpShips operating in the Inner Sphere are decades old, held together by a prayer as much as by technica expertise. Though all crews know several ways to reduce the maintenance requirement of a vessel, few ships can afford to take these measures. Avoiding atmospheric operations and active maneuvering will reduce stress on the hull and drive systems reducing required maintenance. Shutting down the ship's power plant and drive system reduces the ship's maintenance requirement substantially, but also makes the craft uninhabitable. The most drastic option is to mothball the vessel. A mothballed vessel requires no maintenance, but requires additional work in the week before it is put into storage. The following table shows the actual maintenance reductions created by each of the above strategies.

Maintenance for each craft falls into three distinct elements Structure, Power and Life Support, and Weapons. The maintenance requirements of each element can be determined separately, then the crew required to perform the maintenance can also be determined.

MAINTENANCE REDUCTION TABLE

Condition	**Percent of Standard Maintenance Required**
No atmospheric operations	90
No active maneuvers	70
Powered down	10
Mothballed	0/double in week before mothballing

SUPPORT POINTS

BattleSpace uses a system of maintenance similar to the presented in the **Mercenary's Handbook: 3055**. A ship's technica crew (known as engineers, though they need not possess the Engineer Skill) provides Support Points (SP), which indicate the amount of work an engineer can accomplish in a given time

Support Points are based on the skill level each engineer possesses in an appropriate skill. The Support Points each engineer produces must be applied to an appropriate craft or system. For example, an engineer with the Tech/DropShip Skill must apply his SP to DropShip work. An engineer with the Tech/Weapons skill may use his SP on any type of craft, but only on the weapons systems for that craft. One Support Point repairs one point of required maintenance.

The engineers of each craft are divided into two groups. Secondary engineers make up the largest group on each craft, but have Tech Skills of Level 3 or below. The second group, engineers, usually act as team leaders, commanding a group of up to five secondary engineers. Engineers usually possess at least one Tech Skill at a level ranging from 4 to 7, with an average of Skill Level 6. One engineer on each ship commands all the rest. This Master Engineer (or Chief of Engineering) possesses Technician Skill Levels of 6 and above. On average, the crewmen of Clan vessels have an additional 2 levels in appropriate skills, with secondary engineers possessing average skills of Level 5 or below, engineers having an average Skill Level of 8, and chief engineers having an average Skill Level of 8+.

An engineer may work a maximum of 80 hours per standard week (168 standard Terran hours). However, he or she will produce 75 percent of his or her SP in the first 50 hours (2 percent per hour). After 50 hours, fatigue reduces the number of Support Points an engineer can generate. See the Support Points Per Hour Table below to determine how many SP an engineer of each skill level can produce in an hour. Most spacecraft crews expect long working hours (an average of 12 hours out of 24), and gladly accept their reward of extended (and rowdy) shore leave on a frequent basis.

An engineer with more than one Technician Skill may divide his time between the two skills as he sees fit, but is still limited to a maximum of 80 hours per week.

An engineer who spends some of his time on repairs will not contribute his full Support Point value to maintenance, losing 2 percent of his potential SP for each hour on repair detail. An engineer who spends 50 hours or more on repair detail produces no SP toward maintenance, but will not create a negative SP value. For example, an engineer with Tech/Weapons Skill Level 3 normally produces 1,238 SP in a 50-hour week. However, the engineer spends 5 hours repairing weapons after a battle, and so only produces 1,114 SP that week (1,238 SP x [.02 x 5] = 124. 1,238 – 124 = 1,114 SP).

SUPPORT POINTS PER HOUR TABLE

Skill	Work Week (in hours)			
Level	50	60	70	80
1	563	638	713	750
2	788	893	998	1,050
3	1,238	1,403	1,568	1,650
4	2,025	2,295	2,565	2,700
5	2,700	3,060	3,420	3,600
6	2,925	3,315	3,705	3,900
7	3,038	3,443	3,848	4,050
8	3,150	3,570	3,990	4,200

An engineer has a Skill Level 4 in Tech/Aerospace and Skill Level 5 in Tech/DropShip. In a 60-hour work week, he is assigned to spend half of his time on each. He works 30 hours on aerospace systems, producing 2,295 ÷ 2 = 1,148 SP, and then produces 1,530 points of maintenance work on the unit's DropShip (3060 ÷ 2 = 1,530 Support Points).

MPV (SMALL CRAFT)

The Combat Values provided in the **Mercenary's Handbook, 3055**, may be used as the fighter MPV (Maintenance Point Value). Players may also calculate an approximate MPV using the following formula:

(Craft Tons x Heat Sinks) + (Craft Tons x Thrust) + (Total Fire Factors x 90) + (Armor Value x 15)

A calculated MPV will only approximate the Combat Value in the **Mercenary's Handbook**, because the Combat Value involves a more detailed breakdown of the craft's systems.

Each fighter requires maintenance equal to 20 percent of its MPV (or Combat Value) per week.

MPV (LARGE CRAFT)

Each craft of DropShip size or larger has a specific maintenance requirement (the Maintenance Point Value, or MPV). Each craft's total Maintenance Point Value is represented by three separate MPV, the Power and Life Support MPV, Structure MPV, and Weapons MPV, calculated using the following formulas. Please note that MPV are not the same as the Combat Value used to determine the maintenance requirement of ground units. One Support Point repairs one Maintenance Point.

The Maintenance Table, p. 59, provides the maintenance requirements for each vessel of DropShip size or larger currently in use in the Inner Sphere (including occupying Clan vessels), not including space stations. The ships appear in alphabetical order within ship type for easy reference.

Power/Life Support Systems

Determine the Maintenance Point Value of the power and life support systems using the following formula:

MPV = Engine MPV + K-F Drive MPV + Life Support MPV

Consult the Power/Life Support MPV table, p. 59, for the individual values.

Structure

Determine the Maintenance Point Value of the ship's structure using the following formula:

MPV = Structural Integrity MPV + Bridge MPV + Sail MPV + Grav Deck MPV + Docking MPV + Bay MPV

Consult the Structure MPV table for the individual values.

POWER/LIFE SUPPORT MPV

Engine MPV:

Craft Mass (in tons)	*MPV*
Less than 9,000	Engine tonnage x 10
9,000–50,000	Engine tonnage x 5
50,001–400,000	Engine tonnage x 2
400,000+	Engine tonnage

K-F Drive MPV:

Type	*MPV*
Standard Core	K-F Drive tonnage/100
Compact Core	K-F Drive tonnage/10

Life Support MPV:

Number of crew and passengers x 50

Weapons

Determine the Maintenance Point Value of the weapo systems using the following formula:

MPV = Weapons MPV + Heat Sink MPV

The weapons MPV is equivalent to the MPV value of a weapons. Weapon MPVs appear in the Master Weapons Table, 70–71. The heat sink MPV is equal to the number of heat sinks o the vessel x 10.

STRUCTURE MPV

(**Note:** MPV = Armor tons + Structure tons x a multiplier. The second column of the chart provides the multiplier for this formula.)

Structural Integrity MPV:

Craft Mass (in tons)	*MPV Multiplier*
DropShip:	
Less than 50,000	100
50,000+	80
JumpShips, WarShips, Stations:	
Less than 100,000	10
100–200,000	8
200–300,000	6
300–400,000	4
400–500,000	2
500,000+	1

Bridge MPV:

Type	*MPV*
DropShip	Bridge tonnage x 10
JumpShip	Bridge tonnage

Miscellaneous MPV:

Jump Sail = Sail tons x 10
Grav Deck = Deck tonnage x 10
Docking Hardpoints = 100 each
Tug Adapter = 500
Cargo Bays:
  Vehicle/'Mech/fighter = Tonnage of bay
  Cargo = Tonnage of bay/100

EFFECTS OF MAINTENANCE

The Support Points generated by a ship's crew offset th maintenance required on each craft by a ratio of 1:1; in other words using 1 SP cancels out 1 Maintenance Point. If the crew canno generate enough Support Points to cover all the Maintenanc Points, some systems may fail. Roll 2D6 for each system that doe not receive full maintenance, adding 1 to the result per 10 percen of shortfall. If a system that did not receive full maintenance als

MAINTENANCE TABLE

Ship Type	Structure MPV	Life Support MPV	Weapons MPV	Total MPV
JumpShips				
Hunter	7,507	5,183	2,100	14,790
Invader	10,030	7,522	1,160	18,712
Merchant	7,486	5,980	980	14,446
Monolith	14,828	16,930	1,370	33,128
Scout5,620	6,410	1,210	13,240	
Star Lord	10,673	12,100	1,300	24,073
DropShips				
Achilles	42,668	26,900	4,097	73,665
Avenger	13,424	7,300	2,241	22,965
Behemoth	53,741	29,080	2,194	85,015
Broadsword	11,380	6,392	4,059	21,821
Buccaneer	15,479	6,900	883	23,262
Carrier	30,875	16,850	7,508	55,233
Condor	24,622	27,500	1,878	54,000
Confederate	8,626	4,670	2,604	16,200
Excalibur	44,846	38,750	2,420	86,016
Fortress	26,300	21,300	4,530	52,130
Fury10,032	10,000	1,448	21,479	
Gazelle	12,262	6,850	1,576	20,688
Intruder	14,046	13,700	3,713	31,459
Leopard	9,033	5,600	1,968	16,601
Leopard CV	9,033	5,600	1,968	16,601
Mammoth	20,821	22,050	1,894	44,765
Monarch	16,085	24,400	760	41,245
Mule22,653	11,400	1,255	35,308	
Overlord	41,220	20,050	4,371	65,641
Seeker	13,860	22,100	1,630	37,590
Titan51,900	21,000	5,518	78,418	
Triumph	20,980	23,100	2,175	46,255
Union	12,470	10,500	2,990	25,960
Vengeance	46,600	13,325	2,985	62,910
WarShips				
Aegis	62,539	136,675	300,904	500,118
Black Lion	68,569	196,250	312,846	577,655
Bug-Eye	2,015	19,575	1,035	22,625
Cameron	76,924	174,185	209,070	460,179
Congress	60,599	190,800	84,738	336,137
Essex	38,557	151,300	79.052	268,909
Lola III	38,076	203,680	81,420	323,176
McKenna	201,440	488,200	435,020	1,124,660
Potemkin	129,964	318,670	192,188	640,822
Sovetskii				
Soyuz	74,260	155,495	131,124	360,879
Texas147,480	402,600	233,470	783,550	
Vincent	34,222	125,070	16,180	175,472

had a maintenance shortfall in the previous week, add those modifiers to the dice roll result. Compare the total to the Systems Failure Table to determine the number of systems that fail.

As might be expected on such venerable vessels, even if the craft receives full maintenance, a system still might malfunction. Once per week, roll 2D6 for each of the three areas of maintenance, Structure, Power and Life Support, and Weapons. A result of 12 means a single system failed in that area.

When a structure or power/life support system malfunctions despite complete maintenance, roll 2D6 and consult the Affected Systems Table to determine the system that failed. Cross out one box of the affected system (Structure or Power/Life Support) as if it had been damaged by weapons fire (the player controlling the craft determines which maintenance area is affected). This damage can be repaired using the repair rules rather than the maintenance rules. If the randomly determined system is already destroyed, roll 2D6 again and apply one box of damage to another system.

SYSTEMS FAILURE TABLE

Modified 2D6 Result	Number of Systems Failing
2–6	0
7–9	1
10–12	2
13–15	3
15–17	4
18–19	5
20	6
21+	1 additional system fails per point

In one week, the crew of a *Union* class DropShip can only meet 80 percent of the maintenance requirements for their craft's power systems. The player must roll 2D6 and add 2 to the result (+1 per 10 percent of shortfall). The result of the dice roll is 4, modified to 6. The crew is lucky, and no systems fail for lack of maintenance.

The following week, the crew finds itself in a similar position, and only performs 80 percent of the ship's required maintenance. The player again rolls 2D6, but this time adds 4 to the result (+2 for the 20 percent shortfall, and +2 for last week's lack of maintenance). The result is a 7, modified to an 11. According to the System Failure Table, two systems fail. If the 80 percent maintenance continues for a third week, the player must add +6 to the dice roll result (+2 for the 20 percent shortfall, and +4 for the previous two weeks' shortfall). Let's hope they sort out their crewing difficulties soon!

If a weapons system fails, apply one box of damage to a randomly determined weapons bay. Capital-ship bays always suffer system failure before standard weapons bays.

If an aerospace craft suffers a system failure, cross out one Armor box per system failure. When no Armor boxes remain unmarked, the craft cannot be used, but may still be repaired. (Treat it as recovered. See **Recovering Fighter Casualties**, p. 52.)

MAINTENANCE COSTS

Maintenance costs include the wages of the engineers and a steady stream of small, inexpensive parts to keep the vessel functioning. This cost averages out to 1 C-bill for every 100 points of maintenance required. On most craft, this cost is minor, but crews operating larger and more sophisticated vessels find that these minor expenses mount up!

AFFECTED SYSTEMS TABLE

2D6 Result	Structure	Power/Life Support
DropShips		
2	Hull Collapse	Fusion Plant
3	Bay Door	Fusion Plant
4	Cargo Bay	Radar
5	Crew Quarters	Life Support
6	Right Thruster	Bridge
7	Transfer	K-F Boom
8	Left Thruster	Computer
9	Docking Collar	Nav Sys
10	Docking Collar	Reaction Mass
11	Landing Gear	Drive
12	Bridge	Drive
JumpShips, WarShips, Stations		
2	Hull Collapse	Life Support
3	Bay Door	Fusion Plant
4	Cargo Bay	Computer*
5	Crew Quarters	Bridge*
6	Right Thruster	Radar
7	Docking Collar	Communications
8	Left Thruster	CIC
9	Transfer	Engineering
10	Jump Sail Array	Reaction Mass
11	Grav Deck**	Drive
12	Bridge*	K-F Drive (see K-F Drive Failure Table)

*Fifty percent of the time, the auxiliary system fails.

**Fifty percent of the time, the systems of the recreation deck fail.

K-F DRIVE FAILURE TABLE

2D6 Result	Affected Component
2	Drive Coil
3	Charging System
4	Lithium-Fusion Battery
5	Helium Tank
6	Helium Tank
7	Helium Tank
8	Helium Tank
9	Helium Tank
10	Lithium-Fusion Battery
11	Field Initiator
12	Drive Controller (battery system on space station)

REPAIR

Most parts of all types of ships can be repaired. Information o the effects of damage to internal components and their bas repairability appear in the **Combat** section, p. 22. The informatio below explains how to make these and other vital repairs to shi and small craft in **BattleSpace**. These rules assume that un have the necessary tools and parts available to make all neede repairs.

REPAIR MODIFIERS

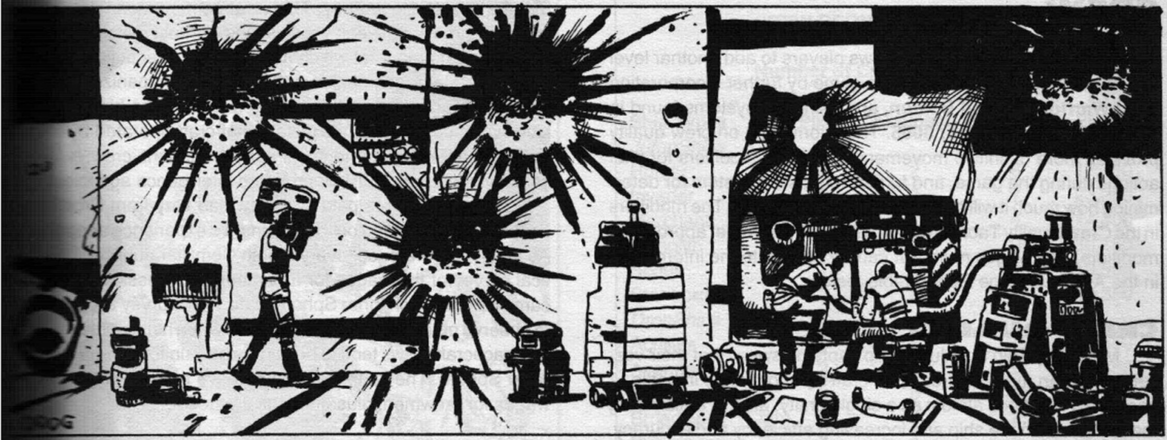
Repairs are possible only if appropriate facilities are availabl To attempt a repair, roll 2D6 and compare the result to the difficu (target number). If the result equals or exceeds the target numbe the repair succeeds. If the result is less than the target number, t repair fails. Whether or not a repair succeeds, the time indicated make the repair elapses.

Clan WarShips, JumpShips, and DropShips carry a hu sealing system that aids in all repairs. Reduce the target numb for the difficulty of any repairs to a Clan vessel by 1.

Each repair requires the presence of at least one engineer a one secondary engineer. A good engineer may reduce the difficu of the repair, and reduce the time required.

If the engineer supervising the repairs has a Base Targ Number for the Tech/(Craft) Skill Roll of less than 4 (see **Skill Rol** p. 10, **MW2**), reduce the target number of the repair by 1 for ea point below 4. For example, if the Base Target Number is subtract 1; if it is 2, subtract 2; and so on. The player must increa the difficulty (target number) of the repair by 1 for each point which the Base Target Number for the Tech/(Craft) Skill of t engineer supervising the repairs exceeds 4. For example, add 1 the difficulty if the Base Target Number is 5; if it is 6, add 2; and s on.

Each point added to or subtracted from the difficulty of t repair also adds or subtracts 10 percent from the base tim required to perform a repair. For example, if the difficulty for t *repair is modified by +2, increase the repair time by 20 percent* the difficulty modifier is –2, reduce the repair time by 20 percen



If an attempt to repair a destroyed component fails, that component must be replaced. The **Construction** section, p. 77, provides the cost of new parts. Installing a new part requires 10 times the base repair time, unless the text specifies a replacement time. To install most new components, the player makes a Repair Roll against a Target Number of 7. The Target Number for installing a new K-F drive system is 9.

COMPONENT REPAIR

The **Critical Damage** section, p. 22 in **Combat**, lists the time (in hours), facilities required, and difficulty (represented by a target number) of repairing internal components. To repair internal components, players must make a Repair Roll against one of two target numbers. When all boxes of a component are crossed out, that component is considered destroyed; use the "destroyed" target number to attempt the repair. If some boxes remain unmarked, use the "damaged" target number to attempt the repair. A result equal to or greater than the target number indicates a successful repair (even on a destroyed component). Unmark one box of damage from that component. If the Repair Roll result is less than the target number, the repair attempt failed. Failed repairs can be tried again unless the repair cannot be repeated, indicated by NR. If a repair succeeds, but more boxes of damage remain crossed out on that component, the player may attempt to repair more damage, even if the repair target number indicates that the repair cannot be repeated .

The rules for repairing weapons bays are slightly different. To repair a weapons bay, make a Repair Roll for each bay (not each Weapons Bay box) against the target number provided (see **Critical Damage**). If at least one of the bays in a firing arc remains functional (the Repair Roll is successful), unmark one box of damage. If the repair attempts for all weapons bays are successful, unmark both boxes.

ARMOR REPAIR

Armor cannot be repaired, but damaged sections can be replaced. A field armor repair requires 20 minutes to replace each point of armor (assuming the craft is carrying spare armor). In dry dock, the same repair takes 10 minutes. No Repair Roll is required.

JUMP SAIL REPAIR

A JumpShip's energy-collecting sail cannot be repaired, but damaged sections can be replaced at a dry-dock facility. It takes 4 hours to replace each damaged sail section (each point of sail integrity lost). No Repair Roll is required.

FIGHTER REPAIR

Any fighter or small craft that survives a battle may be repaired after the battle. Use a target Number of 6 to repair each crossed-out damage box, and a base repair time of 6 hours. When the player can determine the exact type of fighter being repaired, each box of damage repaired costs 1 percent of the craft's purchase price. These repair attempts may be repeated. If the exact type of craft is unknown, the repairs cost 1 percent of the average price of the fighters in that unit. If the player cannot identify any of the fighter types in the unit, assume an average cost of 40,000 C-bills (aerospace fighter) or 200,000 C-bills (OmniFighter).

Recovered small craft may also be repaired. Treat each recovered craft as having no unmarked Armor boxes remaining. Each box of damage may be recovered at a cost of 5 percent of the craft's cost. If the player cannot identify the type of craft, assume a cost of 200,000 C-bills for an Inner Sphere craft or 1,000,000 C-bills for a Clan craft. The Target Number to repair each box of damage is 6, and the base repair time is 18 hours.

CREW

The following information allows players to add another level of complexity to their **BattleSpace** game by further incorporating **MechWarrior, Second Edition,** and using the systems found in **Mercenary's Handbook: 3055**. The information on crew quality provides more definitive movement and attack modifiers for pilot actions during the game, and further refines the system for determining how much it will cost to crew various vessels. The modifiers in the Crew Quality Table are cumulative with any other appropriate modifiers. The wages multiplier can be applied to the information in the Average Wage Report table, below.

CREW QUALITY

Most DropShip and JumpShip captains swear that their vessels' crew can make or break that craft's performance in battle. A good crew functions almost as a single entity, always anticipating the demands on the ship and increasing efficiency and accuracy. On the other hand, members of a bad crew tend to get in each other's way, decreasing the craft's overall performance. In **BattleSpace**, the entire crew (or all the pilots in a fighter unit) use a single Experience Rating to reflect their abilities. A crew's Experience Rating modifies to-hit numbers and Control Rolls. Add all modifiers to the dice roll result; positive modifiers make success more likely, and negative modifiers reduce the likelihood of success. Clan and Inner Sphere vessels normally mount crews of Regular experience. The Clan's lack of DropShip combat experience is the primary reason why their DropShip and JumpShip crews fall below the Veteran experience level that serves as the norm for their ground forces.

CREW QUALITY TABLE

Crew Experience	To-Hit Modifier	Control Roll Modifier	Wages Multiplier
Green	–1	–1	1
Regular	0	0	1.3
Veteran	+1	+1	1.7
Elite	+2	+2	2

Damage to a craft's crew quarters will ultimately affect the crew's performance as fatigue and other factors come into play. For every day the craft must continue to operate after having its crew quarters damaged, increase the difficulty of any to-hit numbers or Control Rolls by 1 per 4 boxes of damage to the crew quarters (round all fractions up).

CREW REQUIREMENTS

The crews of all space-faring craft work in alternating shifts, eight hours working and eight hours resting. Usually only the senior crew, the pilots and engineers, hold a permanent contract with a DropShip. Other crewmen are hired on a casual basis, for a few months or a single journey. This arrangement means that cre constantly move between vessels, and so most spaceports ma tain a central area from which a DropShip's executive officer c hire crew. Major companies and other large organizations of support an agent at each port who oversees the hiring of cre However, *security reasons dictate that craft operated by milit* units or state governments hire a permanent crew, which security-screened by the appropriate intelligence agencies.

The exact wages paid to a crewman vary from DropShi DropShip, and depend on the crewman's experience and positi As a point of reference, every month ComStar publishes a sta tical survey of the wages for a number of professions, based samples from each Inner Sphere state. This survey allows age to observe national and regional trends when hiring, but the wa for spacecraft crews tend to be surprisingly uniform throughout Inner Sphere. The June 3056 report gave the following minim wages for crewmen, plus or minus 2 percent.

AVERAGE WAGE REPORT

Position	Average Wage (in C-bills per month)
Pilot	550
Engineer	450
Secondary Engineer	250

The report also shows that the base wage varies accordin crew experience, with experienced senior crew receiving up to 2 *percent of the base wage (see the* Crew Quality Table above

The crew requirements of each craft depend on the comple of the vessel, but usually increase with the size of the craft. Ea vessel usually supports sufficient engineers to meet its wee maintenance requirements, though the exact number needed depend on the skill of the individual engineers. Each craft a requires one, and occasionally two, pilots per shift. Unlike en neers, pilots generally work one shift per 24-hour period. Most c only require the pilot to supervise the computer-controlled ope tions, and many craft of various sizes manage with only two pil

Larger vessels, most notably WarShips, maintain a la number of additional crew and junior officers, and so have a la proportion of non-engineer crew. On average, these craft hav *non-engineer crewman for every 50,000 tons of the craft.*

The Crew Requirements Table contains crew requireme for the major craft designs currently in service, arranged in alp betical order.

CREW REQUIREMENTS TABLE

Ship Types	Pilots	Engineers	Secondary Engineers	Avg. SP Produced
	Number of Crew Type Required			
JumpShips				
Hunter	2	2	6	17,700
Invader	2	3	7	23,250
Merchant	2	2	4	14,400
Monolith	3	4	9	30,450
Scout	1	1	4	10,500
Star Lord	2	2	7	19,350
DropShips				
Achilles	6	5	20	52,500
Avenger	2	4	9	30,450
Behemoth	6	8	36	90,600
Broadsword (Clan)	2	4	2	24,000
Buccaneer	2	4	6	25,500
Carrier (Clan)	2	5	10	57,000
Condor	2	4	20	48,600
Confederate	2	3	5	19,950
Excalibur	2	10	30	88,500
Fortress	3	5	30	69,000
Fury	2	4	2	18,900
Gazelle	2	4	2	22,200
Intruder	3	5	22	55,800
Leopard	2	4	3	20,550
Leopard CV	2	4	3	20,550
Mammoth	3	6	26	66,300
Monarch	3	4	27	60,150
Mule	2	4	12	35,400
Overlord	3	5	31	70,650
Seeker	2	4	12	35,400
Titan	3	10	25	80,250
Triumph	2	4	9	30,450
Union	2	4	8	28,800
Vengeance	3	6	25	64,650

	Non-Engineers	Pilots/ Engineers	Secondary Engineers	Avg. SP Produced
WarShips				
Aegis	45	105	30	459,000
Black Lion	49	120	39	532,350
Bug-Eye	3	3	14	34,800
Cameron	52	40	195	477,750
Congress	46	50	160	459,000
Essex	37	30	141	349,650
Lola III	41	50	63	198,950
McKenna	116	150	312	1,099,800
Potemkin	90	135	31	577,650
Sovetskii Soyuz	50	50	101	361,650
Texas	94	100	508	1,228,200
Vincent	27	21	65	189,150

CONSTRUCTION RULES

Though some Inner Sphere factories have begun to produce DropShips and JumpShips again, many of the techniques and tools to do so have changed over the last thousand years. Distinctions between technology bases, classified as pre-Succession Wars, Star League-era, and Clan technology, grossly oversimplify the real situation. No two classes of DropShip or JumpShip, and, in many cases, no two ships within a class, use exactly the same technologies or assembly techniques. Manufacturers have always used whatever they could get at the time of construction, not always what was best; where a craft was built also affected its components. For example, a ship constructed at a major facility in the Terran Hegemony would probably have a more efficient propulsion system than a ship of similar mass and design built in the Taurian Concordat.

Because crews have been forced for centuries now to jury-rig their beloved spacecraft to keep them running, those ships listed as "Standard" technology are anything but. Most of the older ships listed in the **BattleTech Technical Readouts** were built one at a time from whatever material was available.

The dissemination of the Gray Death memory core created an almost uniform distribution of Star League-era naval technology throughout the Inner Sphere by 3056, and so players from all Houses and the Clans may use this single set of rules for construction. The text explains how to modify ship construction based on the advanced technology of the Clans.

DROPSHIP CONSTRUCTION

Manufacturers construct DropShips in four major parts. Each part incorporates several important systems, but for construction purposes, players can concentrate on these four areas: parameters, propulsion, structure, and weapons. The parameters determine the type, use, and mass of the ship. The construction of the propulsion system determines how the ship is powered. The structure determines how much armor the ship can carry and how much damage it can withstand. The final step of construction is to mount weapons. Each of these basic areas of construction require several steps.

DETERMINE PARAMETERS

The parameters of a DropShip determine its type, use, and mass.

Technology

Decide what technology will be used to construct the craft, either Inner Sphere (including Star League) or Clan.

Type

Next, determine the type of DropShip to be construc spheroid (egg-shaped) or aerodyne (with wings). Spheroids cheaper to construct and simpler to operate in space; aerody operate better in atmosphere.

Use

Decide whether the craft is for military or civilian use. Mili *craft are usually more powerful, with more efficient systems.* T also cost more than civilian vessels.

Mass

Finally, decide on a mass for the craft. A spheroid DropS may weigh anywhere between 100 and 100,000 tons. An aerod DropShip may weigh anywhere between 100 and 35,000 tons. total mass of all the ship's components must be equal to or less the total mass of the craft.

Players must decide the mass of their ship at this p because the plant size and other components are determined the ship's mass. However, because mass also determines many weapons a ship can carry and how well it will perform function, players may want to take these factors into considera when choosing their ship's mass. The **Large Craft** section vides this type of information for all ships in current use; pla may find it useful to study this section to determine what each mass allows the ship to do before deciding on their ship's ma

> Bill decides to construct a 5,000-ton fighter carrier usi Clan technology. This DropShip will be a military aerody vessel.

DETERMINE PROPULSION

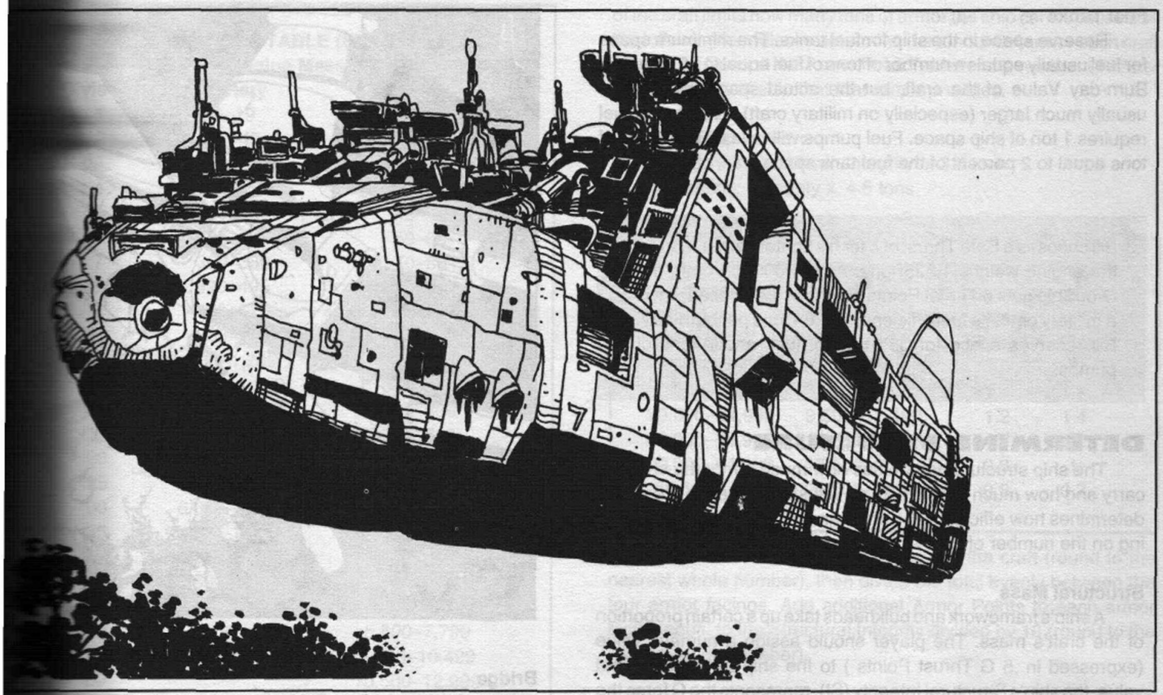
The propulsion system determines how the ship is powe its safe and maximum speed, and its maneuverability.

Engine Size

Determine the size of a DropShip's engine using its mass intended Safe Thrust Value. A DropShip may use any Thrust V up to a maximum of 10, but the greater the Thrust Value, the la the engine. The engine takes up 6.5 percent of the craft's mass each Thrust Point. For example, the engine of a DropShip mass 1,000 tons with a Thrust Value of 3 will weigh 195 tons.

Clan DropShips run slightly more efficiently than their In Sphere counterparts, and each Thrust Point of the engine takes 6.1 percent of the ship's total mass. For example, the engine Clan DropShip massing 1,000 tons with a Thrust Value of 3 weigh 183 tons.

The Maximum Thrust of a craft is equal to the Safe Th multiplied by 1.5 (round fractions up).



Tactical Fuel Efficiency

Though the engine and Safe Thrust determine the actual capabilities of a craft, the size of a craft will determine the amount of fuel required to maneuver. The number of Thrust Points per ton measures the *fuel efficiency of a craft maneuvering during battle,* or operating on a tactical level. This value is important for players using the **Fuel (Optional Rule)**, p.52 in **Campaign Operations**. The Fuel Consumption Table gives the *number of Thrust Points* per ton of fuel yields, based on the craft's mass.

FUEL CONSUMPTION TABLE

Ship Mass (in tons)	Thrust Points/Ton
100–399	16
400–799	14
800–1,199	12
1,200–1,899	10
1,900–2,999	8
3,000–19,999	6
20,000–39,999	4
40,000+	2

Strategic Fuel Efficiency

A ship accelerating at a constant rate is usually conducting the strategic operation of system transit (see **Campaign Operations**). For this type of movement, DropShips can use their more efficient heat-expansion fuel system, which drastically reduces fuel consumption. On military DropShips, this system provides a Burn-day Value (the number of tons of fuel used in one day of constant 1G acceleration) of 1.84 tons per G per day. Players building civilian DropShips, which usually lack this efficient heat-expansion system, should consult the Civilian Fuel Consumption Table below for the Burn-day Value for various ship masses.

CIVILIAN FUEL CONSUMPTION TABLE

Ship Mass (in tons)	Tons/Burn-day/G
100–999	1.84
1,000–3,999	2.82
4,000–8,999	3.37
9,000–19,999	4.22
20,000–29,999	5.19
30,000–39,999	6.52
40,000–49,999	7.71
50,000–69,999	8.37
70,000–100,000	8.83

Fuel Tanks

Reserve space in the ship for fuel tanks. The minimum space for fuel usually equals a number of tons of fuel equal to 20 times the Burn-day Value of the craft, but the actual space allocated is usually much larger (especially on military craft). Each ton of fuel requires 1 ton of ship space. Fuel pumps will take up a number of tons equal to 2 percent of the fuel tank space.

Bill chooses a Safe Thrust of 5 for his fighter carrier, and so the engine weighs 1,525 tons. As a 5,000-ton craft, the DropShip gets 6 Thrust Points per ton of fuel. Because it is a military craft, its fuel efficiency is 1.84 tons per burn-day. Bill reserves space for 337 tons of fuel, and 7 tons of pumps.

DETERMINE STRUCTURE

The ship structure determines how much armor the ship can carry and how much damage it can withstand. The structure also determines how efficiently the ship can use its weapons, depending on the number of heat sinks the ship carries.

Structural Mass

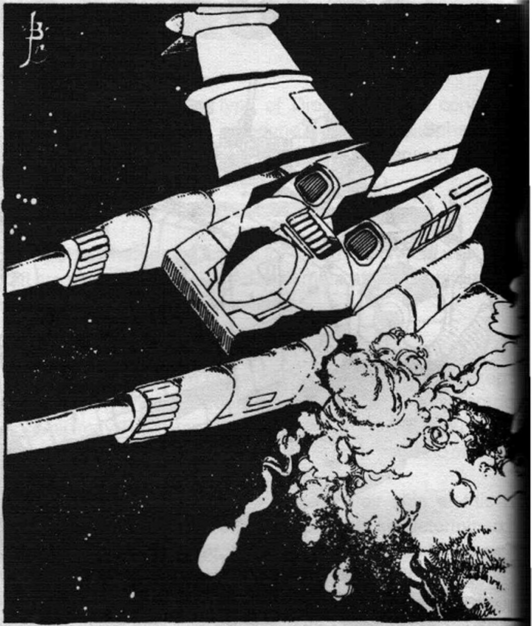
A ship's framework and bulkheads take up a certain proportion of the craft's mass. The player should assign a numeric value (expressed in .5 G Thrust Points) to the ship's structure. That value, the ship's Structural Integrity (SI), represents the G force the frame can withstand. The Structural Integrity has a minimum equal to the maximum Thrust Value of a craft. Most designers, especially of military craft, provide a higher structural integrity than required to allow the ship to compensate for the effects of external G forces (for example, weapons fire and collisions). A high Structural Integrity also will boost the craft's Armor Value (see Armor, p. 67). Find the weight of the framework using the following formula.

DropShip Structural Mass:
Spheroid = (Integrity x Tonnage) / 500
Aerodyne = (Integrity x Tonnage) / 200

For example, a 1,000-ton aerodyne DropShip with a Safe Thrust Value of 3 (Maximum Thrust Value of 5) will need a minimum of 25 tons of structure (SI of 25) to withstand the standard stress of acceleration. A 1,000-ton spheroid DropShip would require only 10 tons of structure (SI of 10).

DropShip structure includes a standard docking collar and the appropriate airlocks, allowing the DropShip to dock with JumpShips, space stations, and other DropShips.

A craft intended for use as a tug must have a reinforced structure. Add 10 percent to the required structural mass.



Bridge

The bridge of a DropShip takes up a relatively small porti
the ship's mass. The minimum mass reserved for the bridge sh
equal .75 percent of the ship's total tonnage. The bridge mo
contains all the computers, sensors, and avionics needed to
the ship.

Heat Sinks

The heat generated by weapons and the rate at which
heat dissipates together limit how frequently **BattleSpace** u
can fire their weapons. Each ship has a certain number of h
sinks built into the engine. The exact number depends on the s
of the engine and the type of craft. The heat sinks built into
engine do not take up any extra mass, and in terms of s
construction are considered "free" heat sinks. Most manufactu
add more heat sinks (that take up mass) in order to increase
firing efficiency of a ship. Players should use the following table
calculate the number of "free" heat sinks the ship they are c
structing receives. For aerodyne DropShips, use the follow
formulas, with the result equal to the number of free heat sinks.
spheroid DropShips, consult the Heat Sink Table below, divi
the number in the left column into the ship's engine mass in
appropriate column (round up). The result is the number of
heat sinks for that ship and engine size.

Aerodyne DropShip Heat Sinks:
Military = Engine weight / 20
Civilian = Engine weight / 60

HEAT SINK TABLE (SPHEROIDS)

Divisor	Engine Mass (in tons) Military	Engine Mass (in tons) Civilian
1	0–19	—
2	20–49	—
3	50–99	0–19
4	100–159	20–39
5	160–229	40–49
6	230–299	50–69
7	300–389	70–89
8	390–499	90–119
9	500–619	120–149
10	620–899	150–219
12	900–1,239	220–299
14	1,240–1,639	300–389
16	1,640–2,099	390–489
18	2,100–2,599	490–519
20	2,600–4,099	620–979
25	4,100–5,999	980–1,399
30	6,000–8,499	1,400–1,919
35	8,500–10,999	1,920–2,499
40	11,000–13,499	2,500–3,199
45	13,500–16,999	3,200–3,999
50	17,000+	4,000–5,799
60	—	5,800–7,799
70	—	7,800–10,499
80	—	10,500–12,999
90	—	13,000–15,999
100	—	16,000+

A military spheroid DropShip with a 150-ton engine would have 37.5 free heat sinks, rounded up to 38 (150/4). A civilian spheroid DropShip with a 300-ton engine would have (300/14 = 21.4) or 22 free heat sinks.

Installing additional heat sinks helps dissipate heat more quickly and efficiently, allowing ships to use more weapons at the same time and in the same turn. Each heat sink takes up 1 ton of mass. Double-strength heat sinks are also available; each double-strength heat sink takes up the same mass as a standard heat sink, but costs three times the standard price (see **Calculating the Cost**, p. 76). Players may replace the free heat sinks in the engine with double heat sinks, but must pay the full cost of those heat sinks.

Armor

Manufacturers provide all DropShips with some armor protection. The amount of protection each ton of armor provides depends on the size and type of DropShip. In addition, the structural integrity of the craft limits how many tons of armor the ship can support. Use the following formulas to determine the amount of armor each craft may carry. Consult the Armor Point Table for the number of Armor Points per ton of ship that that armor provides.

DropShip Armor:

Aerodynes: Structural Integrity x 3.6 tons

Spheroids: Integrity x 4.5 tons

ARMOR POINT TABLE

Ship Mass (in tons) Spheroid	Ship Mass (in tons) Aerodyne	Armor Points (per ton) Inner Sphere	Armor Points (per ton) Clan
100–12,499	100–5,999	1.6	2
12,500–19,999	6,000–9,499	1.4	1.7
20,000–34,999	9,500–12,499	1.2	1.4
35,000–49,999	12,500–17,499	1	1.2
50,000–64,499	17,500–24,999	0.8	1
65,500+	25,000–35,000	0.6	0.7

Determine the total Armor Points for the craft (round to the nearest whole number), then divide the total evenly between the four armor facings. Add additional Armor Points to each armor facing equal to the Structural Integrity divided by 10 (round to the nearest whole number).

Other Structural Components

Use the Miscellaneous Structural Components Table to add the remaining necessary structural components to the DropShip.

MISCELLANEOUS STRUCTURAL COMPONENTS I

Component	Mass (in tons)
CASE (ammo storage)	1 (free on Clan craft)
'Mech/Fighter/Small craft bay	150
'Mech/Fighter/Small craft bay door	Free (maximum of 8)
Heavy vehicle bay (to 100 tons)	100
Light vehicle bay (to 50 tons)	50
Cargo bay	*
Cargo bay doors	Free (maximum of 40)
Crew passenger/quarters	7 per person
Officer/First class passenger quarters	10 per person
Infantry (foot)	5
Infantry (jump)	6
Infantry (motor)	7
Elemental	10
Tug docking/towing adapter	100
Escape pod and mechanism	7
Lifeboat and mechanism	7

*Use any tonnage remaining after installing weapons for cargo.

Bill gives his DropShip an SI of 10 (250 tons). The bridge takes up an additional 37.5 tons. Because the DropShip is a military aerodyne, the engine comes with 76 free heat sinks. Bill decides not to add any additional heat sinks, but converts all free heat sinks to double heat sinks. He also adds 40 tons of armor to the ship (less than the 45 tons allowed) providing a total of 84 Armor Points (21 each on the nose, sides and aft). Then Bill adds the following miscellaneous structures:

10 Fighter bays	1,500 tons
Crew quarters (2 pilot, 5 engineers, 10 secondary engineers)	220 tons
Passenger quarters (10 aerospace pilots, 10 fighter techs)	140 tons
3 Lifeboats	21 tons

CHOOSE WEAPONS

The final stage in DropShip design is to add weapons. Most DropShips mount weapons, even if only for self-defense. Choose any weapons from the appropriate section of the Master Weapons Table, pp. 69–71.

Each player must observe three restrictions when choosing weapons, aside from the consideration of available tonnage.

1. Each ballistic weapon must be allocated one ton of ammunition.

2. Assign the weapons to bays in each firing arc of the craft. Allocate no more than eight weapons to each bay, and assign only one bay of each type of weapon per firing arc. Bay weapons consist of the following:

Particle Projection Cannons (including ER versions)
Autocannons (including Ultra versions and Gauss rifles)
Long Range Missiles (including Artemis versions)
Short Range Missiles (including Artemis and Streak versions)
Laser Weapons (including ER versions)
LBX Autocannons
Pulse Lasers
Point Defense Weapons (machine guns, flamers, small lasers, anti-missile systems)

3. Some side firing arcs must contain identical weaponry to maintain the ship's balance. These include the fore-left and fore-right arcs, and the aft-left and aft-right arcs.

To determine the Fire Factor of each weapons bay, add together the Fire Factors of all the weapons in a bay and round the total to the nearest whole number. If a weapon fires fewer than 10 shots per round, add only 75 percent of its Fire Factor to this total. Record the bay Fire Factor for each range and the total heat generated by the weapons of each bay on the DropShip Record Sheet.

Bill adds the following weapons to his DropShip:

Weapon	Total Mass (in tons)	Location
6 SRM-6 Streak	18	Nose
Ammo (SRM Streak) 90	6	
6 Anti-Missile Systems	3	Nose
Ammo (Anti-Missile) 144	6	
5 ER Large Lasers	20	Nose
3 Large Pulse Lasers	18	Right Wing
4 Machine Guns	1	Right Wing
Ammo (MG) 800	4	
5 ER Medium Lasers	5	Right Wing
2 Gauss Rifles	24	Right Wing
Ammo (Gauss) 18	2	
3 Large Pulse Lasers	18	Left Wing
4 Machine Guns	1	Left Wing
Ammo (MG) 800	4	
5 ER Medium Lasers	5	Left Wing
2 Gauss Rifles	24	Left Wing
Ammo (Gauss) 18	2	
2 Gauss Rifles	24	Right Wing (a
Ammo (Gauss) 18	2	
2 AC/10	20	Right Wing (a
Ammo (AC/10) 20	2	
3 Medium Lasers	6	Right Wing (a
2 Gauss Rifles	24	Left Wing (af
Ammo (Gauss) 18	2	
2 AC/10	20	Left Wing (af
Ammo (AC/10) 20	2	
3 Medium Lasers	6	Left Wing (af
2 AC/20 Ultras	24	Aft
Ammo (AC Ultra) 5	10	
5 ER Large Lasers	20	Aft
Total	323 tons	

The remaining space, 599.5 tons, is reserved for carg
Bill's completed DropShip belongs to the *Carrier* class (see
statistics and description in the **Large Craft** section, p. 43

MASTER WEAPONS TABLE

Weapon	Type	Heat	Fire Factor	Max. Range	Shots/ Ton	Tons	Cost (in C-bills)	Ammo Cost (in C-bills)	MPV
Inner Sphere									
ER Large Laser	Laser	12	.8	Long	—	5	200,000	—	108
ER PPC	PPC	15	1	Long	—	7	300,000	—	136
Flamer	Point Defense	3	.2	Short	—	1	7,500	—	4
Large Laser	Laser	8	.8	Medium	—	5	100,000	—	76
Medium Laser	Laser	3	.5	Short	—	1	40,000	—	31
Small Laser	Point Defense	1	.3	Short	—	1	11,250	—	6
PPC	PPC	10	1	Medium	—	7	200,000	—	110
Lg Pulse Laser	Pulse Laser	10	.9	Medium	—	7	175,000	—	79
Md Pulse Laser	Pulse Laser	4	.6	Short	—	2	60,000	—	82
Sm Pulse Laser	Point Defense	2	.3	Short	—	1	16,000	—	8
Anti-Missile	Point Defense	1	.3	—	12	1	100,000	2,000	40
AC2	Autocannon	1	.2	Long	45	6	75,000	1,000	24
AC5	Autocannon	1	.5	Medium	20	8	125,000	4,500	61
AC10	Autocannon	3	1	Medium	10	12	200,000	6,000	94
AC20	Autocannon	7	2	Short	5	14	300,000	10,000	123
Gauss Rifle	Autocannon	1	1.5	Long	8	15	300,000	20,000	226
LB 10-X AC	LBX AC	2	.6	Medium	10	11	400,000	16,000	128
Machine Gun	Point Defense	0	.2	Short	200	1.5	5,000	1,000	2
Ultra AC5	Autocannon	2	.7	Long	20	9	200,000	9,000	144
LRM 5	LRM	2	.3	Long	24	2	30,000	30,000	29
LRM 10	LRM	4	.6	Long	12	5	100,000	30,000	58
LRM 15	LRM	5	.9	Long	8	7	175,000	30,000	87
LRM 20	LRM	6	1.2	Long	6	10	250,000	30,000	117
LRM 5 + Artemis	LRM	2	.4	Long	24	2	130,000	60,000	89
LRM 10 + Artemis	LRM	4	.8	Long	12	5	200,000	60,000	118
LRM 15 + Artemis	LRM	5	1.2	Long	8	7	275,000	60,000	147
LRM 20 + Artemis	LRM	6	1.6	Long	6	10	350,000	60,000	177
NARC	—	0	—	Short	6	3	100,000	6,000	60
SRM 2	SRM	2	.2	Short	50	1	10,000	27,000	17
SRM 4	SRM	3	.6	Short	25	2	60,000	27,000	34
SRM 6	SRM	4	.8	Short	15	3	80,000	27,000	51
SRM 2 + Artemis	SRM	2	.4	Short	50	1	110,000	54,000	77
SRM 4 + Artemis	SRM	3	.6	Short	25	2	160,000	54,000	94
SRM 6 + Artemis	SRM	4	1	Short	15	3	180,000	54,000	111
Streak 2	SRM	2	.4	Short	50	2	15,000	54,000	25

MASTER WEAPONS TABLE

Clans

Note: Multiply the cost by 5 if purchased on the black market.

Weapon	Type	Heat	Fire Factor	Max. Range	Shots/ Ton	Tons	Cost (in C-bills)	Ammo Cost (in C-bills)	MPV
ER Large Laser	Laser	12	1	Extreme	—	4	200,000	—	166
ER Medium Laser	Laser	5	.7	Medium	—	1	80,000	—	51
ER Small Laser	Laser	2	.5	Short	—	1	11,250	—	21
ER PPC	PPC	15	1.5	Long	—	6	300,000	—	228
Flamer	Point Defense	2	.2	Short	—	1	7,500	—	4
Large Laser	Laser	8	.8	Medium	—	6	100,000	—	76
Medium Laser	Laser	3	.5	Short	—	2	40,000	—	31
Small Laser	Point Defense	1	.3	Short	—	1	11,250	—	6
PPC	PPC	10	1	Medium	—	6	200,000	—	110
Lg Pulse Laser	Pulse Laser	10	1	Long	—	6	175,000	—	177
Md Pulse Laser	Pulse Laser	4	.7	Medium	—	2	60,000	—	74
Sm Pulse Laser	Pulse Laser	2	.3	Short	—	1	16,000	—	16
Anti-Missile	Point Defense	1	.5	—	24	1	100,000	2,000	40
AC2	Autocannon	1	.2	Long	45	5	75,000	1,000	24
AC5	Autocannon	1	.5	Medium	20	7	125,000	4,500	51
AC10	Autocannon	3	1	Medium	10	10	200,000	6,000	84
AC20	Autocannon	7	2	Short	5	12	300,000	10,000	123
Gauss Rifle	Autocannon	1	1.5	Long	8	12	300,000	20,000	228
LB 2-X AC	LBX AC	1	.1	Extreme	45	5	150,000	2,650	42
LB 5-X AC	LBX AC	1	.3	Long	20	7	250,000	12,000	82
LB 10-X AC	LBX AC	2	.6	Medium	10	10	400,000	16,000	123
LB 20-X AC	LBX AC	6	1.2	Medium	5	12	600,000	27,000	184
Machine Gun	Point Defense	0	.2	Short	200	.75	5,000	1,000	2
Ultra AC2	Autocannon	2	.3	Extreme	22	5	120,000	1,000	74
Ultra AC5	Autocannon	2	.7	Long	10	7	200,000	9,000	144
Ultra AC10	Autocannon	6	1.5	Medium	5	10	320,000	12,000	247
Ultra AC20	Autocannon	14	3	Medium	2	12	480,000	20,000	329
LRM 5	LRM	2	.3	Long	24	1	30,000	30,000	46
LRM 10	LRM	4	.6	Long	12	3	100,000	30,000	91
LRM 15	LRM	5	.9	Long	8	4	175,000	30,000	137
LRM 20	LRM	6	1.2	Long	6	5	250,000	30,000	183
LRM 5 + Artemis	LRM	2	.4	Long	24	1	130,000	60,000	106
LRM 10 + Artemis	LRM	4	.8	Long	12	3	200,000	60,000	151
LRM 15 + Artemis	LRM	5	1.2	Long	8	4	275,000	60,000	197
LRM 20 + Artemis	LRM	6	1.6	Long	6	5	350,000	60,000	243
NARC	—	0	—	—	6	2	100,000	6,000	50
SRM 2	SRM	2	.2	Short	50	1	10,000	27,000	17
SRM 4	SRM	3	.6	Short	25	1	60,000	54,000	34
SRM 6	SRM	4	.8	Short	15	2	80,000	54,000	51
SRM 2 + Artemis	SRM	2	.4	Short	50	1	110,000	54,000	77
SRM 4 + Artemis	SRM	3	.6	Short	25	1	160,000	54,000	94
SRM 6 + Artemis	SRM	4	1	Short	15	2	180,000	54,000	111
Streak 2	SRM	2	.4	Medium	50	1	15,000	54,000	25
Streak 4	SRM	3	.8	Medium	25	2	90,000	54,000	49
Streak 6	SRM	4	1.2	Medium	15	3	120,000	54,000	74

MASTER WEAPONS TABLE

Weapon *Naval Weapons*	Type	Heat	Fire Factor	Max. Range	Tons/ Shot	Tons	Cost (in C-bills)	Ammo Cost (in C-bills)	MPV
NAC/10	Capital AC	30	10	Long	.2	2,000	2,000,000	30,000	2,370
NAC/20	Capital AC	60	20	Long	.4	2,500	5,000,000	60,000	4,740
NAC/25	Capital AC	85	25	Long	.6	3,000	7,500,000	75,000	6,185
NAC/30	Capital AC	100	30	Long	.8	3,500	10,500,000	90,000	6,200
NAC/35	Capital AC	120	35	Medium	1	4,000	14,000,000	105,000	6,180
NAC/40	Capital AC	135	40	Medium	1.2	4,500	18,000,000	120,000	5,885
NL/35	Capital Laser	52	3.5	Long	—	700	500,000	—	583
NL/45	Capital Laser	70	4.5	Extreme	—	900	850,000	—	1,145
NL/55	Capital Laser	85	5.5	Extreme	—	1,100	1,250,000	—	1,565
Light NPPC	Capital PPC	105	7	Long	—	1,400	2,000,000	—	1,675
Med NPPC	Capital PPC	135	9	Extreme	—	1,800	3,250,000	—	2,585
Hvy NPPC	Capital PPC	225	15	Extreme	—	3,000	9,050,000	—	4,275
Light N-Gauss	Capital Gauss	9	15	Extreme	.2	4,500	20,300,000	45,000	4,041
Med N-Gauss	Capital Gauss	15	25	Extreme	.4	5,500	30,350,000	75,000	6,735
Hvy N-Gauss	Capital Gauss	18	30	Extreme	.5	7,000	50,050,000	90,000	8,085
Killer Whale	Capital Missile	20	4	Extreme	50	150	150,000	20,000 each	1,160
White Shark	Capital Missile	15	3	Extreme	40	120	130,000	14,000 each	1,155
Barracuda	Capital Missile	10	2	Extreme	30	90	90,000	8,000 each	690
AR10*	Capital Missile	As missile	As missile	As missile	*	250	250,000	As missile	2,360

*The AR10 system can fire any of the three capital missile types as long as appropriate ammunition is available.

JUMPSHIP/WARSHIP CONSTRUCTION

JumpShip and WarShip construction consists of five major steps. As with DropShips, each step of construction incorporates several important systems. Players construct JumpShips and WarShips using the same areas as for DropShips, but must also build the K-F drive, the system that allows these ships to jump through hyperspace. Each of the five steps, parameters, K-F drive, propulsion systems, structure, and weapons, require several smaller steps.

DETERMINE PARAMETERS

The parameters of a DropShip determine its type, use, and mass.

Type

First decide whether the ship is to be a standard JumpShip or a WarShip (also known as a combat JumpShip).

Mass

Decide the mass of the ship. Because no K-F drive may be smaller than 2,500 tons, this limits the minimum size of a JumpShip, which may mass up to 500,000 tons. A WarShip may mass up to 2,500,000 tons. The total mass of all the ship's components must be equal to or less than the total mass chosen. (See the explanation under **Mass** on p. 64 for guidelines for choosing mass.)

For his next vessel, Bill decides to build a new JumpShip, again using Clan technology. He decides on a 95,000-ton standard JumpShip to be used for reconnaissance.

ADD K-F DRIVE

The K-F drive consists of two elements: the drive itself, used to produce the massive power required to jump through hyperspace, and the energy collecting sail, the most common technique of recharging the drive.

The K-F drive forms the core of all types of JumpShips, and comes in two types. The standard Kearny-Fuchida drive takes up 95 percent of the ship's mass (this mass includes all helium tanks, controllers, and other vital components). WarShip construction requires a more compact drive, to allow the vessel to transport maneuvering engines and naval weapons in addition to DropShips. The compact core takes half the space of the standard core (45.25 percent of the ship's mass), but costs 100 times more than a standard core.

Each K-F drive has an Integrity value that represents the fragility of the drive's largest component, the helium tank. Find the Integrity of the tank using the following formulas. Round the result, the Drive Integrity, to the nearest whole number. See **Hyperspace Travel**, p. 42 in **Campaign Operations** for the effects of drive integrity.

K-F Drive Integrity:
Standard Core Integrity = 1.2 + (K-F drive mass/60 tons)
Compact Core Integrity = 2 + (K-F drive mass/25,000)

Jump Sail

JumpShips normally recharge their K-F drives using a hu jump sail, a device specially designed to gather energy from nea stars. The mass of this sail depends on the size of the JumpSh and the type of drive core. Use the following formulas to determi the required size for the jump sail. Round the sail mass to t nearest whole number.

Jump Sail Mass:
For Standard Drive = 30 + (JumpShip mass/7,500)
For Compact Core = 30 + (JumpShip mass/20,000)

Jump sails are designed to withstand a certain amount damage and still function. Use the following formula to determi this tolerance, called the Sail Integrity. Round the Sail Integrity the nearest whole number.

Sail Integrity = 1 + (Sail Mass/20)

Bill gives his JumpShip a standard K-F drive core. At 95 percent of the craft's mass, the core will weigh 90,250 tons. The drive will have a Drive Integrity of 2.7 (rounded up to 3). The jump sail will weigh 43 tons, and will have a Sail Integrity of 3.

DETERMINE PROPULSION

JumpShips and WarShips use different propulsion systems. Most JumpShips use their engines for station-keeping only, and thus require only a 0.1- or 0.2-G thrust capability (0.2 to 0.4 Thrust Points). WarShips, which need to maneuver in-system, usually have thrust values comparable to a DropShip. The engine unit includes both the drive system and fusion plant for the craft.

Determine Engine Size

Determine the size of a JumpShip's engine using its mass and intended Safe Thrust Value. The engine takes up 1.2 percent of the ship's weight for each tenth of a G in thrust (or 0.2 Thrust Points). For example, the engine of a WarShip weighing 500,000 tons with a Thrust Value of 3 would weigh 90,000 tons.

The Maximum Thrust of a craft is equal to the Safe Thrust multiplied by 1.5 (round fractions up).

FUEL CONSUMPTION TABLE

Ship Mass (in tons)	Thrust Points/Ton
5,500–89,999	4
90,000–109,999	2
110,999–249,999	1
250,000+	0.5

Tactical Fuel Efficiency

Though the size of the ship's engine determines the craft's maneuverability, the size of the ship itself determines the amount of fuel required to maneuver. Rather than list the fractional amounts of fuel required to generate 5 meters per second per second acceleration (1 *Thrust Point/0.5 Gs*), *the* Fuel Consumption Table provides the number of Thrust Points per ton of fuel required to maneuver. This value is important for players using the advanced fuel rules (see **Fuel (Optional Rule)**, p. 52 in **Campaign Operations**).

Strategic Fuel Efficiency

When using the engine at a constant rate for long periods, whether at a low level to maintain station at a jump point or to travel through a system, a ship can use its more efficient heat-expansion fuel system, drastically reducing fuel consumption. The exact consumption *(given in tons of fuel per day per* G of acceleration) depends on the size of the ship. This value appears in the Heat-Expansion Fuel Table.

HEAT-EXPANSION FUEL TABLE

Ship Mass (in tons)	Tons/Burn-day
5,500–49,000	2.82
50,000–99,000	9.77
100,000–199,999	19.75
200,000+	39.52

To determine the actual amount of fuel consumed for station-keeping or system transit, multiply the number of tons per burn-day by the acceleration in G. For example, a WarShip accelerating at 2 Gs would use twice the indicated number of tons per burn-day. A JumpShip holding its position by using 0.1 Gs of thrust would consume only one tenth of the fuel indicated.

The player may assign any amount of the available space to fuel tanks. The minimum space for fuel usually equals a number of tons of fuel equal to 20 times the Burn-day Value of the craft, but is usually much larger than this. Each ton of fuel requires 1 ton of ship space. Fuel pumps will take up a number of tons of space equal to 2 percent of the fuel tank space.

Bill decides that his JumpShip's station-keeping drive will provide 0.1G of thrust. At 1.2 percent of the ship's mass, the engine will weigh 1,140 tons. This drive will use 9.77 tons of fuel per burn-day. One ton of fuel will provide 2 Thrust Points. Because the JumpShip is to operate away from base for long periods on recon missions, Bill equips the ship with enough tanks to carry 400 tons of fuel (enough for at least one Terran year). The fuel pumps for these tanks take up 8 tons of space.

DETERMINE STRUCTURE

The ship structure determines how much armor the ship can carry and how much damage it can withstand. The structure also determines how efficiently the ship can use its weapons, depending on the number of heat sinks the ship carries.

Structural Mass

A ship's framework and bulkheads take up a large proportion of the craft's mass. The player assigns a numeric value to the ship's structure, *representing the strength of the structural framework* and its ability to withstand G force and other stresses. This numeric value is the ship's structural integrity (SI). The SI has a minimum value equal to the Maximum Thrust Value *of a craft, but most* designers provide a higher structural integrity than required (up to thirty times the Maximum Thrust on WarShips) to allow the ship to compensate for those G forces resulting from an external source (usually weapons fire). WarShips have a minimum Structural Integrity equal to their mass divided by 22,000. A ship's Structural Integrity limits the amount of armor the ship can carry; a high Structural Integrity allows the ship to carry more armor and boosts the craft's Armor Value (see Armor, below).

Find the weight of the ship's framework using the following formula.

Structural Mass:
JumpShip (Standard Core) = Ship Mass/150
WarShip (Compact Core) = (SI/10) x (Ship Mass/100)

A 100,000-ton JumpShip will require 667 tons of structure (100,000/150). A 500,000-ton WarShip with a Maximum Thrust Value of 5 will need a minimum of 11,500 tons of structure (minimum SI of 23/10 multiplied by 500,000/100 = 2.3 x 5,000). Note that except when dealing with small WarShips, the thrust value is irrelevant to this calculation.

Bridge

The bridge of a JumpShip (or WarShip) takes up a relatively small part of the craft. Allocate 0.25 percent of the ship's mass for the bridge.

Heat Sinks

The drive of a WarShip or JumpShip (either station-keeping or maneuvering) has a certain number of built-in heat sinks to help dissipate heat generated by the system's operation and by firing weapons. The exact number provided depends on the size of the drive. The heat sinks built into the engine do not take up any extra mass, and in terms of ship construction are considered "free" heat sinks. Most manufacturers add additional heat sinks (that take up mass) in order to increase the firing efficiency of the ship. Players should use the following formula to determine the number of heat sinks the ship they are constructing receives.

Free Heat Sinks = $45 + \sqrt{(\text{Engine weight} \times 2)}$

Installing additional heat sinks helps dissipate heat more quickly and efficiently. Each heat sink takes up 1 ton of mass. Double-strength heat sinks are also available; each double heat sink takes up the same mass as a standard heat sink, but costs three times the standard price (see **Calculating the Cost**, p. 76). Players may replace the free heat sinks in the engine with double heat sinks, but must pay the full cost of those heat sinks.

Armor

Manufacturers provide all JumpShips with some armor protection. The amount of protection each ton of armor provides varies depending on the size of the craft and its technology (Inner Sphere or Clan). On JumpShips, players may add a maximum of 1 ton of armor for every 12 tons of mass dedicated to structure. WarShips can carry 1 ton of armor for each 50 tons of structure. Use the following table to determine the number of Armor Points (AP) provided per ton of armor for JumpShips and WarShips.

ARMOR POINT TABLE

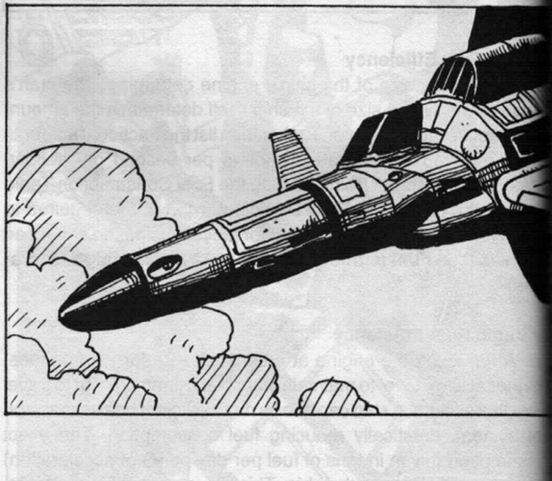
Ship Mass (in tons)	Armor Points (per ton) Inner Sphere	Clan
5,500–14,999	1.6	2
15,000–149,999	0.8	1
150,000–249,999	0.6	0.7
250,000+	0.4	0.5

WarShips using standard armor default to the AP values giv in the above table, but may improve their protection by usi alternative types of armor. The alternatives listed below provi greater protection, but cost far more than standard armor (s **Calculating the Cost**, p. 76).

ARMOR INCREASE TABLE

Armor Type	Increase AP	Cost Multiplier
Ferro-Aluminum (improved)	0.2	5
Ferro-Carbide	0.4	25
Lamellor Ferro-Carbide	0.6	100

Determine the total Armor Points for the craft (round to t nearest whole number), then divide the total equally between t six armor facings. Then add additional Armor Points to each arm facing equal to the Structural Integrity divided by 10 (round to t nearest whole number).



MISCELLANEOUS STRUCTURAL COMPONENTS II

Component	Mass (in tons)
Docking Hardpoint (JumpShip collar)	1,000
Grav Deck (less than 100 meters in diameter)	50
Grav Deck (100–250 meters in diameter)	100
Lithium-Fusion Battery	1% of ship's mass (maximum 1 per ship)

Note: Use any tonnage remaining after installing weapons for cargo.

Other Components

Use the above table or the **Miscellaneous Structural Components Table I**, p. 67, to add the remaining necessary structural components to the JumpShip or WarShip.

Crew requirements for JumpShips and WarShips differ slightly from those of DropShips. JumpShips and WarShips usually require a crew of two or three pilots, two to six engineers, and one or two secondary engineers per engineer. Each weapons bay requires two engineers or an engineer and a secondary engineer. A JumpShip also assigns at least four engineers or secondary engineers to the K-F drive and two engineers or secondary engineers to the fusion plant and station-keeping drive. WarShips assign ten engineers or secondary engineers to their transit drive.

Bill devotes 633 tons of his JumpShip to the craft's structure, adding an additional 237.5 tons for the bridge. The ship's drive comes with 93 heat sinks. Rather than adding more heat sinks, which would occupy mass, Bill converts the "free" heat sinks to double heat sinks (effectively 186 heat sinks). Bill next adds armor to the ship, a massive 40 tons (40 Armor Points) out of a possible 53 tons, dividing it among the facings as follows: fore 10, aft 10, each side 10. The low Structural Integrity of .1 fails to provide additional Armor Points. The JumpShip then takes on the following miscellaneous equipment.

Docking collar	1,000 tons
Crew cabins (2 pilots/8 engineers)	70 tons
Passenger quarters (10)	70 tons
4 Lifeboats	28 tons

CHOOSE WEAPONS

The final stage in JumpShip/WarShip design is to add weapons. Choose any weapons from the appropriate section of the Master Weapons Table on pp. 69–71.

Each player must observe three restrictions when choosing weapons, aside from the consideration of available tonnage.

1) Each ballistic weapon must be allocated at least one ton of ammunition.

2) Assign the weapons to bays in each firing arc of the craft. Each bay may mount any number of standard weapons, but capital ship bays have a limit of 70 capital ship Fire Factors per capital ship bay. Bay weapons consist of the following:

Standard Bays

Particle Projection Cannons (including ER versions)
Autocannons (including Ultra versions and Gauss rifles)
Long Range Missiles (including Artemis versions)
Short Range Missiles (including Artemis and Streak versions)
Laser Weapons (including ER versions)
LBX Autocannons
Pulse Lasers
Point Defense Weapons

Capital Ship Bays

Naval Lasers
Naval PPCs
Naval Autocannons
Naval Gauss
Naval Missiles

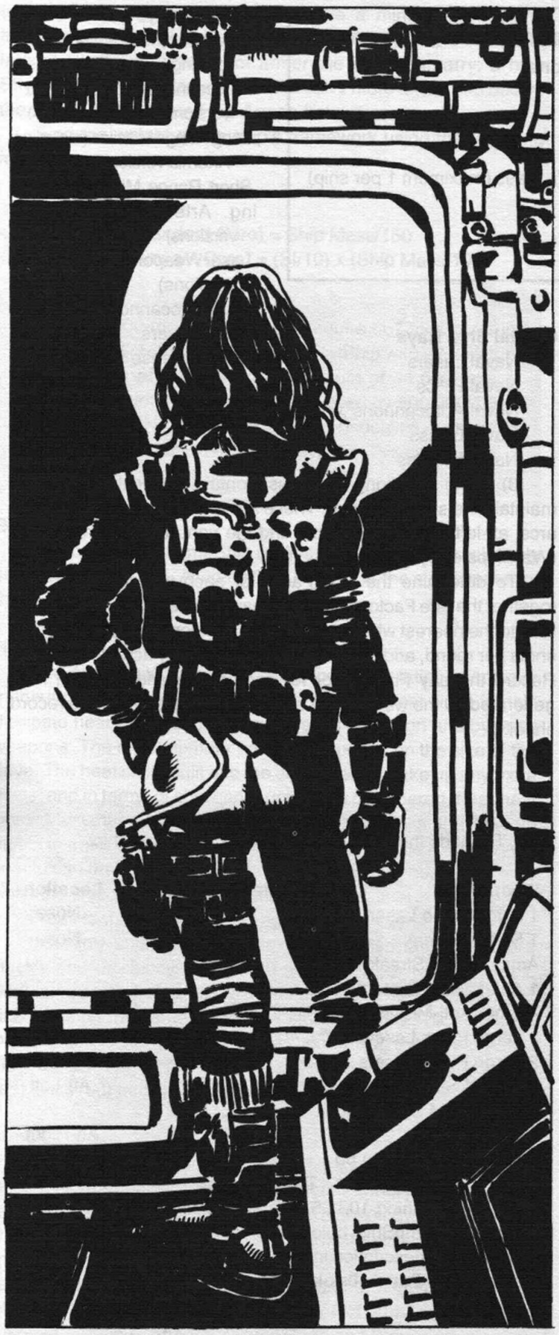
3) Some side firing arcs must contain identical weapons to maintain the ship's balance. These are the fore-left and fore-right arcs, aft-left and aft-right arcs, and the right and left broadsides (WarShips only).

To determine the Fire Factor of each weapons bay, add together the Fire Factors of all the weapons in a bay, and round the total to the nearest whole number. If a weapon fires fewer than 10 shots per round, add only 75 percent of its Fire Factor to this total. Record the bay Fire Factor for each range and the total heat generated by the weapons of each bay on the appropriate record sheet.

Bill adds the following weapons to the JumpShip:

Weapon	Total Mass (in tons)	Location
1 Large Pulse Laser	6	Nose
1 SRM-4 Streak	2	Nose
Ammo (SRM Streak) 25	1	
1 Anti-Missile System	1	
Ammo (Anti-Missile) 72	3	
2 Large Pulse Lasers	12	Fore-Left
2 Large Pulse Lasers	12	Fore-Right
2 SRM-4 Streak	4	Aft-Left
Ammo (SRM Streak) 50	2	
2 SRM-4 Streak	4	Aft-Right
Ammo (SRM Streak) 50	2	
	Total 49 tons	

The remaining 1031.5 tons are reserved for cargo. Bill's completed JumpShip belongs to the *Hunter* class (see full statistics and description in the **Large Craft** section p. 43in the **BattleSpace Sourcebook**).



SPACE STATIONS

Players can use the JumpShip/WarShip construction rules construct space stations, with the following modifications.

Stations do not use K-F drives, but may have an energ collecting sail (calculate size and Integrity as for a JumpShip), an storage batteries, designed to collect charges of energy that can b transferred to JumpShips. Each battery weighs 100,000 tons.

The bridge (or command deck) of a station takes up 0. percent of the available mass.

Space stations do not use an engine, instead mounting a station-keeping drive/power plant that takes up 1 percent of th station's mass. Space stations consume fuel at one-tenth the ra of a JumpShip of similar size.

Stations maintain larger grav decks than ships, usually up t 2,000 meters in diameter. Each 700 meters of diameter (or par thereof) weighs 500 tons.

Some stations maintain pressurized dry-dock facilities. Thes facilities generally take up a number of tons equal to 7.5 percent o the mass of the largest craft the dry dock can accommodate. Othe stations provide unpressurized dry-dock facilities, a framewo within which repairs (or construction) take place. Unpressurize facilities take up tonnage equal to 2.5 percent of the mass of th largest craft the facility can accommodate.

The Structural Integrity of a space station is equal to 1 perce of the station's mass. The SI of a station does not limit the amou of armor that may be added to the station.

MISCELLANEOUS STRUCTURAL COMPONENTS III

Component	Mass (in tons)
Grav Deck (250+ meters)	500
Energy Storage	100,000/battery
Repair Facilities (pressurized)	7.5% of the largest craf accommodated
Repair Facilities (unpressurized)	2.5% of the largest craf accommodated

CALCULATING THE COST

To determine the total cost of any craft, find each compone on the table below and add the cost for all components togethe For ships larger than fighters, consult the Labor Cost Table and ad the appropriate cost to the cost of the components. The cost purchasing a ready-made craft usually runs approximately 15 percent higher than the cost to assemble one. Fuel costs betwee 500 and 3,000 C-bills per ton, depending upon availability. The co of fuel is not included in the price of the craft.

CONSTRUCTION COST TABLE

Component	Cost (in C-bills)
Altitude thruster	25,000
Armor	1,000/ton
CASE	50,000
Bridge	200,000 + (10 x craft tonnage)
Computer	200,000
Docking collar	10,000
Docking hardpoint/JumpShip docking collar	100,000 each
Tug docking/towing adapter	100,000
Door	1,000 each
Double heat sinks	6,000 each
Heat sinks	2,000 each
Drive unit	500 x Thrust x (craft tonnage/100)
Energy storage batteries	1,000,000
Engine (power plant)	1,000/ton of engine
Engine control equipment	1,000
Escape pod	5,000 each
Fire control	100,000
Fuel tank	200/ton
Grav deck (less than 100 meters)	5,000,000
Grav deck (100–250 meters)	10,000,000
Grav deck (250+ meters)	40,000,000
Gunnery control	10,000 per arc with weapons
K-F drive	
Coil	60,000,000 + (75,000,000 x max num. DropShips carried)
Initiator	25,000,000 + (5,000,000 x max num. DropShips carried)
Controller	50,000,000
Tank	50,000/point of Integrity
Sail	50,000/ton
Charging system	500,000 + (200,000 x max num. DropShips carried)
Compact core	Multiply total cost of K-F drive components by 100
Landing gear	10 x Ship Mass
Life support	50,000 x (passengers + crew/10)
Lifeboat	5,000 each
Lithium-fusion battery	Multiply total cost of K-F drive components by 10
Lithium-fusion battery (compact core)	Multiply total cost of K-F drive components by 1,000
'Mech/Fighter storage cubicle	20,000 each
Vehicle storage cubicle	10,000/vehicle
Radar	80,000
Repair facilities (pressurized)	10,000/ton of facility
Repair facilities (unpressurized)	5,000/ton of facility
Structure	100,000/SI point
Weapons/Ammo	See Master Weapons Table, pp. 69–71

LABOR COST TABLE

Craft Type	Labor Cost (in C-bills)
Spheroid DropShip	Total Component cost x 7
Aerodyne DropShip	Total Component cost x 9
JumpShip	Total Component cost + 25%
WarShip	Total Component cost + 100% (estimated)
Space Station	Total Component cost + 400% (built on site)

CONVERTING AEROTECH CRAFT

Players may have existing ships and fighters that they would like to convert to use in **BattleSpace**. Use the following conversion rules to change **AeroTech** craft statistics to **BattleSpace** specs.

MOVEMENT/FUEL

The easiest **AeroTech** statistics to convert to **BattleSpace** are those relating to the craft's performance. The **AeroTech** Thrust Value becomes the Safe Thrust Value for **BattleSpace**. The Overthrust Value becomes the Maximum Thrust Value. The fuel tonnage and the number of Thrust Points per ton remain the same.

OFFENSIVE SYSTEMS

Divide the weapons of each craft into the firing arcs appropriate to the craft. The table below shows the relationship between the **AeroTech** aerospace arc (i.e., their location on the craft), and the appropriate **BattleSpace** arc.

WEAPON LOCATION TABLE

AeroTech Arc	BattleSpace Arc
Fighters	
Nose or fuselage	Fore
Wing (R/L)	Wing Arc (R/L)
Aft and aft wings	Aft
DropShips	
Nose and fuselage	Fore
Front side or wing (R/L)	Fore side (R/L)
Aft side or Aft wing (R/L)	Aft side (R/L)
Aft	Aft
WarShips/JumpShips	
Nose	Fore
Nose side (R/L)	Fore side (R/L)
Side (R/L)	Broadside (R/L)
Engine side (R/L)	Aft side (R/L)
Engine	Aft

Assign the weapons to the appropriate bays. Each standa weapons bay contains a single type of weapon. Each capital s bay may only contain a total of 70 Fire Factors (700 **AeroTe** points) of damage. Because of that restriction, there may several of each type of capital ship bay in each arc. Weapons grouped into the following types of bays.

Standard Weapons Bays

Particle Projection Cannons (including ER versions)

Autocannons (including Ultra versions and Gauss rifles)

Long-Range Missiles (including Artemis versions)

Short-Range Missiles (including Artemis and Streak versio

Laser Weapons (including ER versions but not small lase except where noted)

LBX Autocannons

Pulse Lasers

Point-Defense weapons (machine guns, flamers, small las and anti-missile systems). AMS may do damage if the targe close enough because it functions as a Gatling rotary cannon

Capital Ship Bays

Naval Autocannons

Naval Particle Projection Cannons

Naval Lasers

Naval Gauss Rifles

Naval Missiles

Determine the total Fire Factor of each weapon in a bay each range at which the weapons can fire. All weapons i weapons bay can fire at short range. For weapons with an **AeroTe** range of 9+ (medium range in **BattleSpace**) add those values the bay's medium range Fire Factor. Weapons with an **AeroTe** range of 18+ (long range) are included in the bay's long range F Factor. Weapons with an **AeroTech** range of 24+ are include the extreme range Fire Factor. The **BattleSpace** Fire Factor of weapons is equal to the **AeroTech/BattleTech** Damage Va divided by ten. The Master Weapons Table, pp. 69–71, provi the **BattleSpace** damage, heat, and range values of all availa weapons. These values may be modified by the following si tions.

Weapons that scatter (SRMs, LRMs, and LBX autocanno do not inflict their maximum damage. The weapons inflict average Fire Factor, which is the value given in the Mas Weapons Table.

For any weapons that fire fewer than 10 shots per round, a only 75 percent of their normal Fire Factors to the bay.

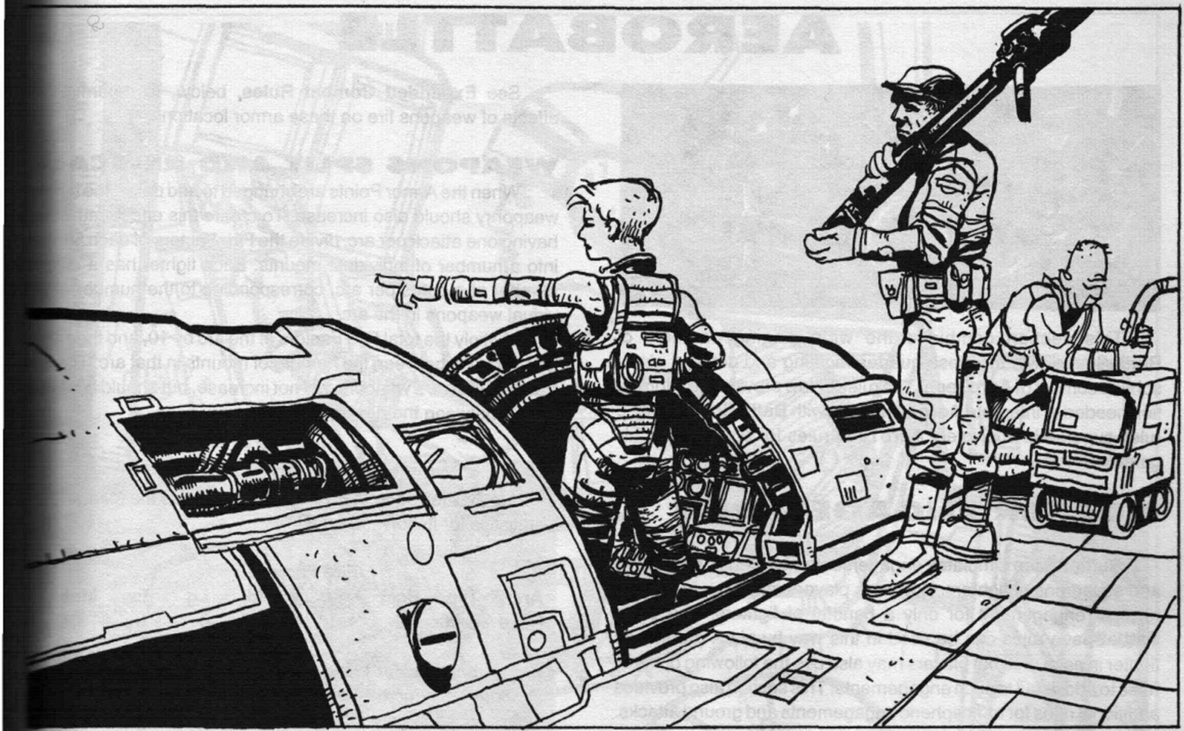
For a fighter equipped with a targeting computer, add 1 to Fire Factor of each arc that contains weapons.

Round fractions to the nearest whole number.

Total and record the Heat Values of all weapons in a bay the appropriate record sheet.

ARMOR

Divide the armor assigned to each craft evenly between ea of the sides appropriate to the craft. The table below shows relationship between aerospace armor locations and **BattleSpa** armor locations. To find the **BattleSpace** Armor Values, divide result of the formula by ten, rounding to the nearest whole numb



ARMOR CONVERSION TABLE

AeroTech Location	BattleSpace Armor Value
Fighters/Small Craft	
Single Armor Value	Total Armor Value/4 (does not include 10 free points for cockpit)
DropShips	
Nose	Fore armor + 25% of structure
Sides	Wing or side armor + 25% of structure
Aft	Aft armor + 25% of structure
JumpShips/WarShips	
Nose	Fore + 33% of side + SI
Fore Side	Fore (Side) + 33% of total (both) sides + SI
Aft Side	Aft (Side) + 33% of total (both) sides + SI
Aft	Aft + 33% of side + SI

MISCELLANEOUS STATISTICS

Record other important statistics for the craft, such as cargo capacity, heat sinks, K-F drive integrity, sail integrity, and the number of crew. These numbers do not change from **AeroTech** to **BattleSpace**.

FIGHTER UNITS

To convert **AeroTech** fighters to **BattleSpace** statistics, use the following special rules.

The Armor Value of the unit is the total of all the fighters' Armor Values.

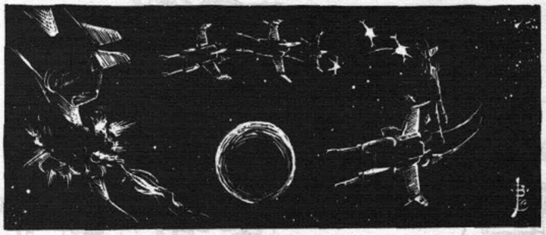
The weapons values used for each fighter equal the average values of all the fighters; in other words, total the Fire Factors of each arc at each range, then divide the result by the number of fighters, rounding to the nearest whole number.

Use the lowest Safe Thrust, Maximum Thrust, and thrust values of all fighters in the unit, rather than the average.

Determine the total number of heat sinks in the unit and divide by the number of fighters to find the average number of heat sinks per fighter.

Inner Sphere squadrons usually contain 6 fighters. Clan AeroStars usually field 10 fighters each, but are bound by the Clan rules of engagement (see **Playing the Game**, p. 9). ComStar usually organizes its fighters in units of 6.

AEROBATTLE



This section combines the wide-ranging conflicts of **BattleSpace** *with the close-quarters fighting and detailed atmospheric combat of* **AeroTech**. The rules below provide the information needed to integrate **AeroTech** rules with **BattleSpace**. These *rules supersede equivalent* **AeroTech** rules for purposes of this game.

FIGHTER ENGAGEMENTS

BattleSpace simulates engagements between fleets of craft and squadrons of fighters. However, players may wish to use the rules of engagement for only a handful of fighters. The basic **BattleSpace** rules can be used in this way by placing only one fighter in each unit, but players may also use the following optional rules to add detail to such engagements. This section also provides additional rules for atmospheric engagements and ground attacks.

MODIFYING BATTLESPACE

Modify the basic **BattleSpace** rules according to the rules below in order to play out space or atmospheric dogfights and other fighter combat in **BattleSpace**. These rules begin by adjusting the armor and weapons statistics to provide greater detail in small-scale fighter engagements. These rules also assume that a **MechWarrior, Second Edition** character is available for each pilot.

ARMOR RE-SCALE

Players can add detail to a small-scale fighter versus fighter scenario by dividing the craft's armor between several locations, *rather than using a single armor statistic*. The total number of Armor Points on the craft is equal to the craft's Armor Point Value (APV) multiplied by 40. For example, a fighter with a **BattleSpace** APV of 3 would have a total of 120 Armor Points.

Divide these Armor Points among the 4 armor locations using the percentages indicated below.

Nose	20%
R/L Wings	30% (15% each)
Aft	20%
Fuselage	30%

In the above example, the fighter with the APV of 3 mounts a total of 120 Armor Points, divided as follows: Nose 24; wings 18 each; aft 24; fuselage 36.

See **Expanded Combat Rules**, below, to determine th effects of weapons fire on these armor locations.

WEAPONS SPLIT AND RE-SCALE

When the Armor Points are changed to add detail, the fighte weaponry should also increase. To create this effect, *rather tha* having one attack per arc, divide the Fire Factors of each firing a into a number of individual mounts. Each fighter has a differe *number of mounts per arc, corresponding to the number of in* vidual weapons in the arc.

Multiply the total Fire Factors of the arc by 10, and then divi *them equally between the number of mounts in that arc.* The He Value of the arc's weapons will not increase, but should be divide evenly between the new mounts.

In **BattleSpace**, a SYD-Z3 *Seydlitz* uses the following statistics for its forward bay:

			Fire Factors				
Arc	Type	Heat	Sh	Md	Lg	Ex	Mnts
Nose	Laser	6	1	0	0	0	2

In the **AeroBattle** system, the craft's total Fire Factors at short range increases to 10, divided into 2 five-point weapons, each generating 3 Heat Points.

EXPANDED COMBAT RULES

AeroBattle uses the same basic combat rules as **BattleSpa** but the modified armor and weapons adds more complexity attacks and damage.

When firing weapons in combat, roll separately for each atta with each weapon mount, rather than for each arc. *Use the sa* ranges and to-hit modifiers as for **BattleSpace** (see **Combat**, 14), but also modify those numbers based on the pilot's Gunne *Skill Level. For every point that the pilot's Gunnery Skill Level* higher than 4, the base to-hit number increases by 1. For eve point that the Pilot's Gunnery Skill Level is less than 4, the base t hit number decreases by 1. The lower the Gunnery Skill Level, th lower the base to-hit number, and the easier it is to hit the targ

Unlike weapons fire directed against a DropShip, attac against a fighter usually hit in several locations. Determine th exact location in which attacks strike their target by rolling 1D6 a consulting the Random Hit Location Table below. Cross-referen the result of the dice roll with the angle of attack to determine th location hit. Determine the angle of attack as if the fighter craft w a DropShip (see **Weapons Fire/Firing Arcs**, p.14 in **Combat**) the indicated location has already been destroyed, transfer th damage to the fuselage.

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N

RANDOM HIT LOCATION TABLE

Die Roll Result	Angle of Attack Fore	Aft	L Side	R Side	Above/Below
1	Nose	Aft	Nose	Nose	Nose
2	Nose	Aft	L Wing	R Wing	L Wing
3	Nose	Aft	Fuselage	Fuselage	Fuselage
4	L Wing	L Wing	Fuselage	Fuselage	Fuselage
5	R Wing	R Wing	L Wing	R Wing	R Wing
6	Fuselage	Fuselage	Aft	Aft	Aft

Roll 1D6 for each weapon that strikes a fighter. On a result of 6, the fighter sustains critical damage. Roll a second 1D6 and cross-reference the result with the appropriate column in the Critical Damage Table below.

CRITICAL DAMAGE TABLE

Dice Roll Result	Nose	Wing	Aft	Fuselage
1	Weapon	Weapon	Weapon	Pilot
2	Weapon	Weapon	Weapon	Landing Gear
3	Weapon	Weapon	Control	Fuel Tank
4	FCS Radar	Control	Engine	Life Support
5	No Crit	No Crit	Engine	Avionics
6	No Crit	No Crit	No Crit	No Crit

Critical Damage Table Key

A hit that does critical damage to a fighter has the following effects.

Weapon: One weapon mounted in that location suffers major damage and no longer works. The controlling player may choose which weapon in the arc stops functioning. If there are no weapons in the location suffering a critical hit, treat the result as No Crit (see below).

Pilot: The pilot takes damage. Cross out 1 row of points (**MechWarrior, Second Edition**) and make the appropriate Consciousness Rolls.

FCS Radar: The radar system linked to the fire control system suffers damage. Modify all to-hit rolls by +2 per damage box crossed out. The FCS can take 3 critical hits before being destroyed.

Control: The pilot must make a Piloting Skill Roll. If he fails this roll, the craft goes out of control. If the craft is at low altitude (or lower), a failed skill roll means that the aircraft crashes (see **Low Atmosphere Rules**, p. 82). In any other circumstances, a failed roll forces the craft to continue in a straight line, losing 2 altitude levels if in atmosphere. The pilot may attempt to eject by rolling 2D6 (see below for more details).

Engine: Every successful hit to the engine causes the craft lose 1 Thrust Point until the craft is repaired. If the number available Thrust Points reaches 0, the craft will continue on i straight line at its current velocity (or at a Velocity of 1 if in l atmosphere). A craft in atmosphere with a critically damag engine loses 1 altitude level per turn.

Landing Gear: Landing becomes difficult. Add +5 to the tar number for all skill rolls made to land.

Fuel Tank: Each hit to this location drains the craft of 3 points of fuel. Every time the craft loses fuel, roll 2D6. On a res of 10 or more, the fuel tank explodes, destroying the craft.

Life Support: The life-support system fails and the pilot m use the craft's flight suit reserves, which provide 30 minutes of support. Any unsuited passengers will fall unconscious and d within five minutes unless the craft is at high altitude or lower.

Avionics: A critical hit to this location indicates damage to t flight computer. The avionics system can take up to 3 critical h before being destroyed, but for each hit, add +1 to all Control Ro When all three damage boxes have been crossed out, add +5 to a Control Rolls. A fighter with a damaged avionics system may n fly at Nape of the Earth (NOE) level.

No Crit: The shot penetrates the armor in that location, b does not damage any critical systems. Lucky!

Miscellaneous Critical Damage

In space, a fuel tank explosion (all the armor boxes of t fuselage are crossed out) destroys the fighter. If all damage box on the wing and nose are crossed out, the weapons in thos locations are destroyed. A critical hit that destroys the craft's a armor prevents the craft from expending thrust.

When operating in atmosphere, a craft will fall Out-of-Cont if all the armor boxes in any one location are crossed out. For a location destroyed this way other than the fuselage, the pilot ma attempt to eject from the craft. The player rolls 2D6. On a result 8 or more, the pilot ejects safely. If the result is 7 or less, the pi ejects but takes damage. For every point by which the roll fails less than 8) the pilot must cross out one damage box (or 1 row points), and must make a Consciousness Roll. A pilot may als eject from his craft in space, but must be rescued within 30 minute (the duration of the flight suit's power and oxygen).

LOW ATMOSPHERE RULES

BattleSpace, as the name suggests, deals with space engagements. The **BattleSpace** rules for atmospheric engagements remain abstract; atmosphere is considered as a vertical slice of the battleground, and air-to-ground combat is drastically simplified. This section provides rules for those players who want to view the atmosphere in three dimensions, as a series of horizontal layers.

ALTITUDE LEVELS

These rules only apply to the low atmosphere, that area at an altitude of 18 kilometers or less which comprises the Ground hexes in **BattleSpace**. The following table provides the parameters of each altitude level. The Altitude Level (similar to an Elevation Level) column also provides a general description of the level. Players fighting in the medium to very high regions of the atmosphere should use the standard **BattleSpace** rules.

ALTITUDE LEVEL TABLE

Altitude Level	Minimum (in meters)	Maximum (in meters)
6/Very High	5,001	18,000
5/High	1,001	5,000
4/Medium	501	1,000
3/Low	101	500
2/Very Low	26	100
1/NOE	0	25

Most craft will fly no lower than low altitude. Only fighters on ground-attack missions or those attempting to land fly at very low and NOE altitudes. Fighters flying at altitudes below 100 meters drastically increase their risk of hitting a structure on the ground.

When flying at NOE (Nape of the Earth), the aircraft skims the ground, often flying as low as 10 meters above the surface (Elevation Level 2 in **BattleTech**). This tactic allows the aircraft to use the terrain to mask itself from return fire (see Return Fire, below). However, many **BattleTech** mapboards have terrain of sufficient elevation to interfere with such a flight path. For a fighter flying at NOE altitude, treat the fighter as being 2 elevation levels above the actual elevation of the underlying terrain (or 1 level above a wooded hex). For example, treat a fighter crossing a Level 1 area as if it were at Elevation Level 2. Treat a fighter crossing a Level 2 hill as if it were flying at Elevation Level 4. A fighter crossing a wooded hex on Level 0 terrain is at Level 3, one level above the treetops, not at level 4 (2 levels above the trees). A fighter whose avionics system is damaged may not fly at NOE.

MAP SCALE

Modify the time and distance scale of **BattleSpace** engagements conducted in the lower atmosphere to better fit with the **BattleTech** mapboard and turn. Game Turns played out in low atmosphere become 10 seconds long, one-sixth of a **BattleSpace** turn. Each **BattleSpace** hex represents 500 meters, approximately 1 **BattleTech** mapboard. The maximum velocity of craft becomes 12 hexes per 10-second turn (equal to 36 kilometers per minute, the same maximum speed as in **BattleSpace**). Six **AeroBattle** turns occur during each **BattleSpace** turn. **BattleSpace** Movement and Combat Phases occur every six **AeroBattle** turns.

MOVEMENT

Unlike in the standard **BattleSpace** rules, fighters using the low atmosphere rules do not maintain a record of their velocity. Instead, they must expend Thrust Points to maintain their speed. Each fighter must spend 1 Thrust Point for each hex it wishes to move, and must move at least 1 hex per turn. If the craft does not move forward 1 hex, it has stalled and will fall one altitude level. VTOL craft need not move, but must expend a Thrust Point to hover. At the end of every turn, reduce the velocity of each craft to 0.

For low altitude maneuvers, fighters need not expend Thrust Points to turn (change facing). Fighters use control surfaces built into their wings to facilitate turning, diving, and climbing. These control surfaces allow the craft to make a number of "free" turns, that is, turning maneuvers that do not require thrust; but the faster the craft moves, the fewer free turns it receives. Each craft must travel in a straight line for a number of hexes before it may make a free turn. The Straight Movement Table below provides the number of hexes a fighter must move before turning.

STRAIGHT MOVEMENT TABLE

	Fighter Type	
Velocity	Aerospace	Conventional
1–3	1	1
4–6	2	1
7–9	3	2
10–12	4	3

For example, an aerospace fighter traveling at a Velocity of 5 must move 2 hexes forward before making a turn, but that turn costs no Thrust Points. A conventional fighter traveling at the same velocity need move only 1 hex forward before turning.

LOW ALTITUDE TURNS

Velocity	Minimum Number of Hexes of Straight Movement (Aero Fighter)	(Conv. Fighter)
1 – 3	1	1
4 – 6	2	1
7 – 10	3	2
11 – 15	4	3
16+	5	4

Aerospace fighters may use thrust to gain additional turns (facing changes), making up for their relatively poor maneuverability in atmosphere. Aerospace fighters may expend 2 Thrust Points in order to make an additional turn of one hex-side. The pilot can apply this thrust at any point during the Movement Phase, and may do so multiple times, so long as the craft has sufficient Thrust Points. However, a fighter may only make one turn, free or otherwise, in each hex.

A fighter may also expend Thrust Points to change its altitude level. A craft must spend 2 Thrust Points for each altitude level climbed, and can climb as many levels as it has available Thrust Points in one turn. The craft may also descend altitude levels, which costs no Thrust Points. If the fighter loses more than one altitude level in a turn, it gains an additional, free Thrust Point for that turn only. However, a fighter that gains a point of velocity this way still may not exceed a velocity of 12 hexes per turn.

Using thrust uses Fuel Points at the rate of 1 Fuel Point per 5 Thrust Points. When a fighter's Fuel Points reach 0, the fighter may no longer expend thrust.

AIR-TO-AIR COMBAT

Fighters at the same altitude level may fire at each other per the Expanded Combat rules above. Fighters at different altitude levels may fire at each other, but may not aim into the area directly above and below their hex. If the attacker and target are one altitude level apart, the firer may only engage targets more than one hex away. If two altitude levels separate the fighters, the target must be more than 2 hexes away from the attacker, and so on.

The Random Hit Location Table, p. 81, provides a column of information for attacks from above and below, to be used when the attacker and target are at different altitude levels.

When flying at NOE, the terrain-following radar of fighter craft constantly "jinks" under computer control to make the most of ground cover. This movement adds +2 to all to-hit rolls. The more sophisticated radar and flight computers of Clan OmniFighters tie directly into the fire control computers, and so these craft only add +1 to the to-hit number when operating at NOE.

If a fighter engages a second fighter that is attacking a ground target, reduce the to-hit number of the first fighter by –3, to reflect the advantage of attacking an engaged opponent.

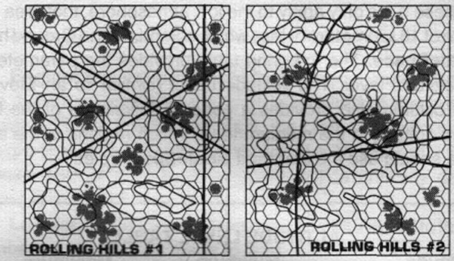
AIR-TO-GROUND FIRE

The BattleMech may be the king of the battlefield, but even that powerful machine must fear the firepower of fighters. Though more fragile than their ground-based opponents, most fighters carry sufficient weaponry to cripple or destroy a ground vehicle or 'Mech, and an intelligently used fighter unit can destroy a much larger ground force.

Fighters can attack ground targets three ways. The most common form of attack is the strafing run, in which the craft uses its energy weapons to attack a "line" of ground hexes. The next most common is the strike, in which a craft targets all its weapons on a single vehicle or building. The least common form of attack, bombing, is also the most deadly. A good pilot can skillfully deliver several tons of ordnance into a relatively small area, causing extreme damage.

When a fighter ends its movement in a low-altitude he containing a **BattleTech** mapboard, it may attack targets on th map. Regardless of the type of attack the fighter decides to ma (and even if the fighter decides not to attack), the fighter mu nominate a line of hexes over which it will pass, called the "atta line." This row must form a straight line, and must lie directly alon the craft's direction of travel.

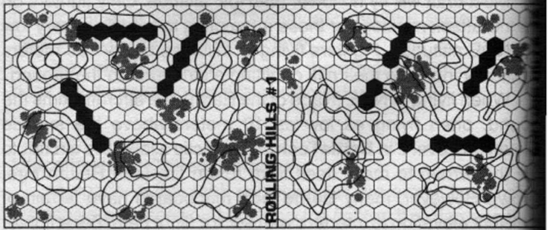
The attack line determines which hexes the fighter may attac and which ground vehicles may fire back (see **Return Fire**, p. 85



LEGAL **ILLEGAL**

Strafing

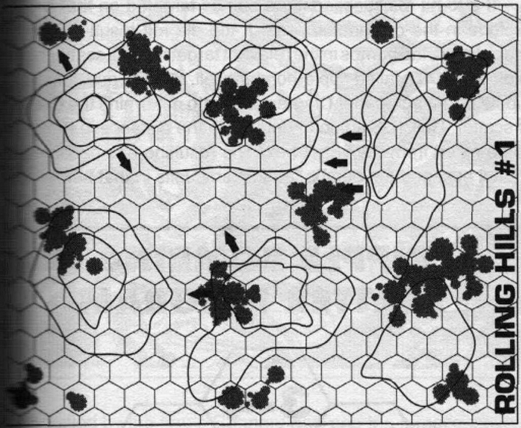
Craft flying at low, very low, or NOE altitude levels may ma a strafing attack. A fighter making this type of attack should choo 5 of the hexes along the attack row as the target hexes. These hexes must form a cohesive block, and may not be separated b other hexes.



LEGAL **ILLEGAL**

The pilot may choose to fire one, some, or all of its ener weapons during a strafing run (lasers, pulse lasers, or PPCs), a the weapons may strike any ground units (hostile or friendly) i these 5 hexes. The Base To-Hit Number for such attacks is modified by the Gunnery Skill of the pilot, the target's **BattleTe** modifiers (see p. 25, **BattleTech Compendium**) for moveme and terrain (except partial cover, see below), and any modifiers f damage to the strafing craft. A fighter flying at NOE also suffers th movement penalties outlined above. Make separate to-hit rolls fo each target. Divide the damage from any weapons hitting the targ into 5-point groups, and apply the damage to the target using the appropriate column of the standard **BattleTech** Hit Locations Table, p. 27 of the **BattleTech Compendium**.

Under normal circumstances, a ground vehicle is only protected by the terrain of the hex it occupies. However, fighters flying at NOE generally find it harder to establish a clear LOS, and so must take into account the terrain in the target's hex and the terrain directly in front of the target's hex along the attacker's LOS. If the terrain directly in front of the target is a hill two or more elevation levels higher than the target's hex, the target is in the "dead zone" of the hill, and may not be attacked. A hill three levels higher than the terrain in the target's hex and up to 2 hexes away protects the target. A hill four elevation levels higher provides shelter for a target three hexes away, and so on.



Strike

The attacker must be flying at low, very low, or NOE to make a strike attack. Rather than strafing a row of hexes, a fighter may fire one, some, or all of its weapons, energy and ballistic, at a single target unit (or building). The pilot should designate one unit or building, located on the attack line, as the target of the strike. The craft may fire all the weapons it carries at the target, making a separate to-hit roll for *each weapon*. The Base To-Hit Number for such attacks is 8, modified by the Gunnery Skill of the pilot, the target's **BattleTech** modifiers for movement and terrain, and any modifiers for damage to the attacking craft. Hill terrain may provide the target with protection from a strike attack (see Strafing). A fighter attacking at NOE will suffer the penalties indicated above. If the target of the attack is a building or other immobile structure, *reduce the Base To-Hit Number to 4.*

Divide the damage from strike attacks into 5-point groups, and apply it to the target using the appropriate column of the **BattleTech** Hit Location Table, p. 27 of the **BattleTech Compendium**.

Bombing

Most fighters are equipped to carry a number of bombs, though the capacity varies depending on the size of the fighter. Each fighter can carry one unit of bombs for each 5 tons of the fighter's mass. For example, a 20-ton fighter could carry 4 units of bombs; a 100-ton fighter could carry a maximum of 20 units of bombs. However, *every 5 units (or part thereof) of bombs carried* reduces the fighter's thrust by 1 point, and adds a +1 penalty to any Control or Landing Rolls. These penalties decrease as the craft's payload lightens.

BattleSpace makes the following types of bomb available. A fighter can carry several types at once.

High Explosive (HE): Each unit of HE bombs inflicts 10 points *of damage to any units in the hex of impact.*

Cluster: Each unit of cluster bombs inflicts 5 points of damage to each unit in the hex of impact, and in each of the surrounding 6 hexes.

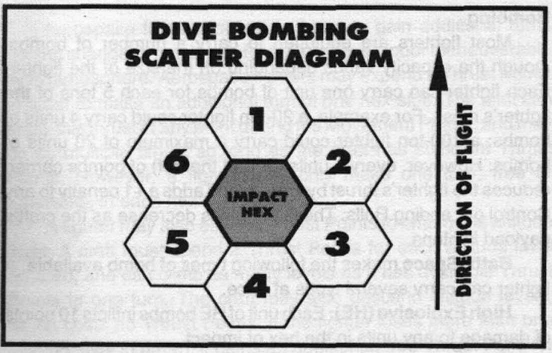
Inferno: One inferno bomb creates a fire in the hex of impact (even in Open or Water hexes) which will burn for 30 turns. Use the fire rules on p. 53, **BattleTech Compendium**, to determine the *effects of the fire.*

Mines: Similar to FASCAM submunitions, a mine-type bomb lays a 20-point minefield in the hex of impact and in each of the surrounding 6 hexes.

Arrow IV: Fighters may carry either version of the Arrow IV missile system. This system can attack any unit on the target map, and may fire at a target on a nearby mapboard (up to the Arrow IV's *range*). Use the standard Arrow IV rules on p. 117, **BattleTech Compendium**. A fighter at NOE or very low altitude may not launch an Arrow IV missile. An Arrow IV missile occupies 5 bomb units.

TAG: Though not a weapon in its own right, some fighters carry the TAG system in an external pod or have it built into the fuselage. This allows them to designate, or paint, targets for artillery fire and for bombing. The pilot must make a to-hit roll *against a Target Number of 6* to align the TAG system with the target. The pilot may not make any other attacks while attempting to align the TAG system. The fighter must be at medium altitude (or higher) to paint a target, and the target must be on the **BattleTech** mapboard corresponding to the low-altitude hex the fighter occupies. Homing Arrow-IV missiles may attack a designated target using the rules on p. 117, **BattleTech Compendium**, and will use the BattleMech Punch Locations table, p. 31 in the **Compendium**, to determine the damage inflicted by a successful hit. Fighters making bombing and artillery attacks against designated targets reduce their to-hit number by 2. An external TAG system occupies 1 bomb unit.

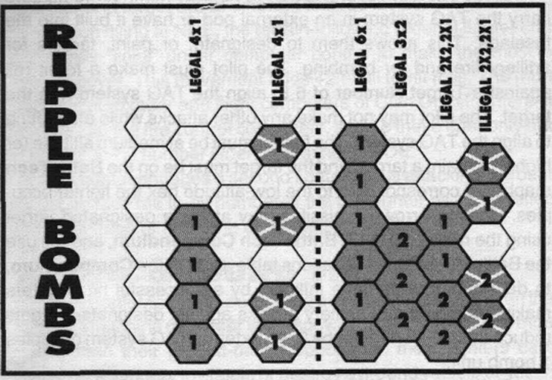
Fighters can deliver bombs one of two ways. Dive-bombing allows the fighter to precisely target a small area, but exposes the fighter to excessive amounts of return fire. Ripple bombing makes for less precise targeting, but allows attacks against a strip of ground, much like a strafing run.



Dive Bombing

A fighter at low or medium altitude may make a dive-bombing attack against a single hex (on the attack line) on the target mapboard. The fighter may drop one, some, or all of its bombs in the attack. Make a single to-hit roll, with a Base To-Hit Number of 6. Modify the target number for the Gunnery Skill of the pilot and damage to the attacking craft. Modifiers for the movement of the target or the terrain do not apply.

If the result is successful, all bombs will explode in the designated target hex. If the roll fails, the bombs scatter before exploding. On a failed dive-bombing roll, roll 1D6 and consult the Dive-bombing Scatter Diagram below to determine the direction of scatter. Roll a second 1D6 to determine the distance in hexes the bomb rolled from the target hex. The resulting hex becomes the impact hex, and the bombs will "attack" any units in that hex.



Ripple Bombing

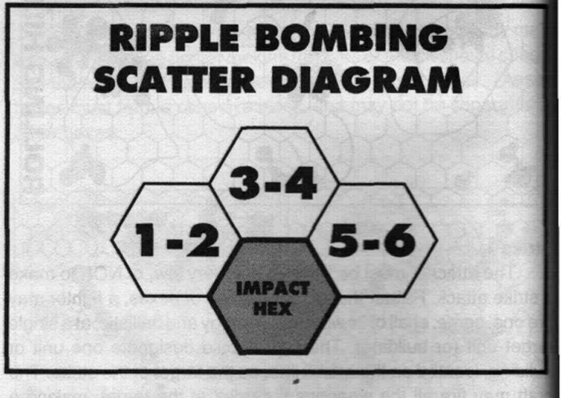
Ripple bombing is less precise than dive-bombing, but allows attacks against a larger area. Fighters can make ripple bomb attacks from any altitude level, but may suffer penalties to hit if the attack originates from altitude levels above very low.

Ripple bombing works in a similar manner to strafing, where a fighter attacks a continuous strip of hexes along the attack line. Ripple bombing may attack up to 10 hexes, but the fighter must drop a minimum of one unit of bombs and a maximum of two in eac hex. All targeted hexes must be adjacent. If the craft carries severa types of bomb, the pilot chooses which bombs are aimed at whic hexes.

For example, if a fighter drops only two units of bombs, the craft can only attack one hex or two adjacent hexes. A fighte dropping 10 units of bombs can target between 5 and 10 adjacen hexes.

The Base To-Hit Number for ripple bombing is 8, modified by the Gunnery Skill of the pilot and any damage to the attacking craft. Also modify the target number by +1 for each altitude level above very low at which the attacker is flying. Do not apply modifiers fo the movement of the target or for the terrain, but apply the standard penalties for fighters flying at NOE. Make a to-hit roll for each he targeted.

If a to-hit roll succeeds, the bombs targeted on that hex wi explode in the designated area. If the die roll result means the attack failed, the bombs in the relevant target hex will scatter before exploding. On a failed ripple-bombing roll, roll 1D6 and consult the Ripple Bombing Scatter Diagram below to determine the directio of scatter. Roll 1D6 again to determine the distance in hexes the bomb rolled from the target hex. The resulting hex becomes the impact hex, and the bombs "attack" any units in that hex.

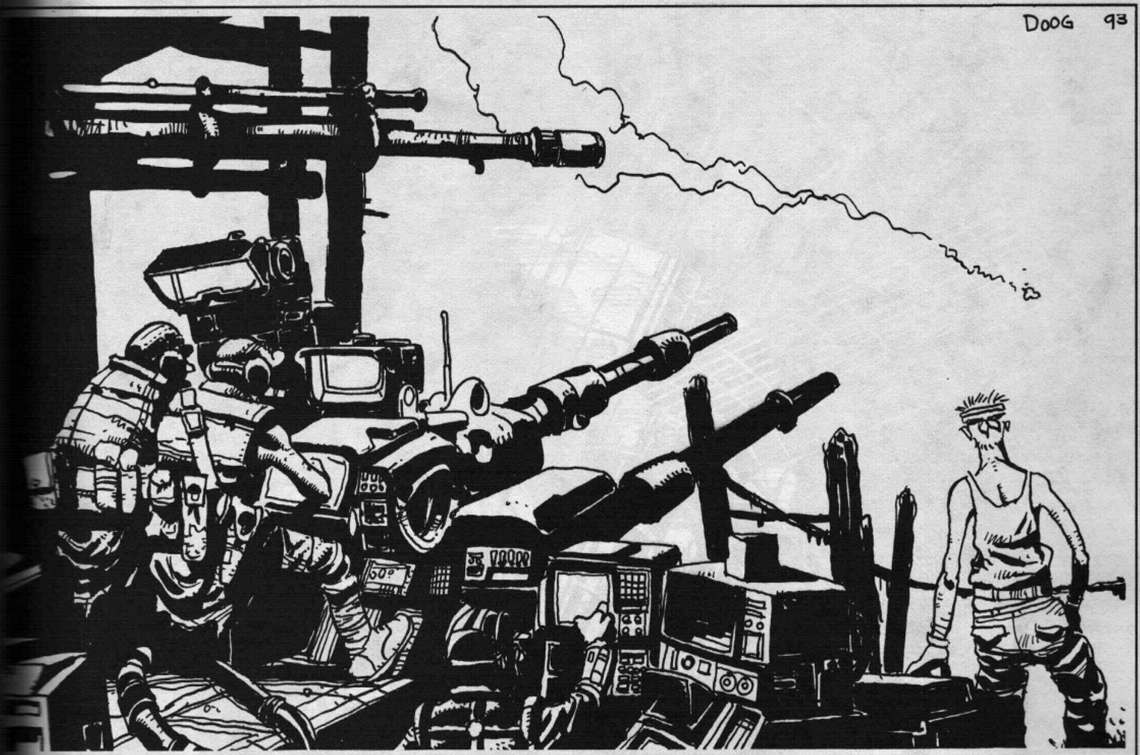


Damage from Bombs

Divide the damage inflicted by bombs into 10-point groups. Targets in the hex of impact will take damage as if punched in the front/back. (Roll 1D6. On a result of 1–3, the attack hits the front; on a result of 4–6, it hits the back.) Cluster munitions also affect units in surrounding hexes. Treat such attacks as originating in the hex of impact to determine angle of attack.

RETURN FIRE

Any vehicle, BattleMech or installation (not infantry or battlesuited troops) on a **BattleTech** mapboard may fire at any AeroBattle craft ending its turn over that map. The target must be at medium altitude or lower. The fighter need not have made a ground attack that turn. The Base To-Hit Number is 10, regardless of the weapon



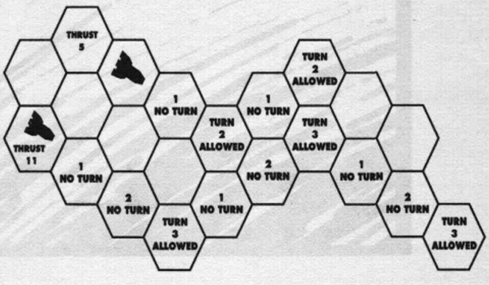
ired, modified by the firer's Gunnery Skill and the target's movement. A vehicle or BattleMech lying along the fighter's attack line has a Base To-Hit Number of 8.

A unit that fires at an airborne target may not fire at any other unit that turn. The weapons fired must have sufficient range to reach a hex on the fighter's attack line (even if it did not attack), plus two hexes per the target's altitude level (+2 to attack a target at NOE, +4 for a fighter at very low, +6 for low, and +8 for medium). Ground units engaging targets at NOE must deal with additional complications (see below).

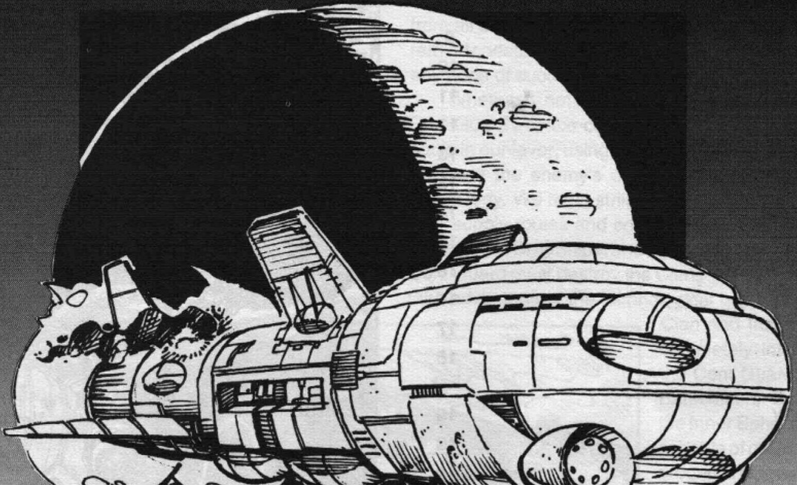
Use the standard **BattleTech** rules to apply damage to the fighter from return fire, using the Above/Below column of the Random Hit Location Table, p. 81.

Fighters flying at NOE level are much harder for ground units to target (which is why good pilots fly so low), and ground units must observe fighters moving through a certain number of hexes at NOE before firing. Ground units must have line-of-sight to the fighter for 10 hexes along the fighter's attack line. Treat the fighter as being 2 elevation levels above the ground (or 1 level above woods) in the hexes of the attack line. Any terrain (including woods) of Elevation Level 2 or greater will obstruct line of sight. If the ground-based attacker does not lie on the fighter's attack line and cannot trace line of sight for 10 hexes along that line, it cannot attack the fighter. If a ground unit lying along the attack line cannot trace line of sight for 10 hexes of the attack line, it may still fire, but must add +2 to the to-hit number.

SPECIAL MANEUVERS AT LOW ALTITUDES



BATTLESPACE™



SOURCEBOOK

FASA
CORPORATION

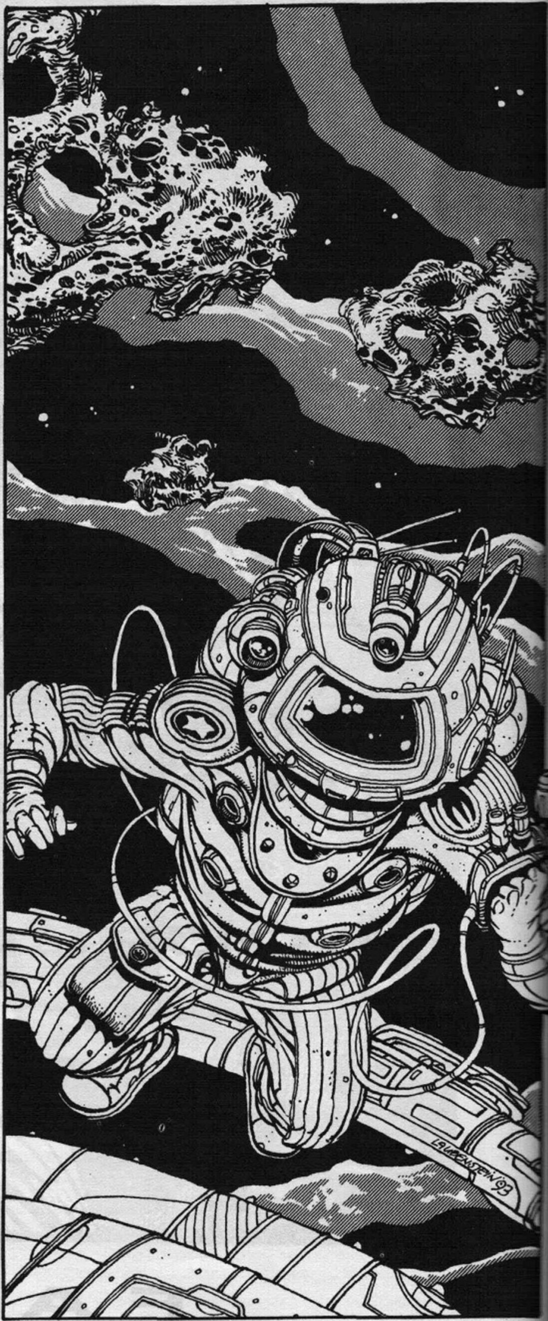
BATTLESPACE

INTRODUCTION 4

HISTORY OF NAVAL WARFARE 6
- Current Events 6
- War on the Seas 6
- From Sea to Space 7
- A New World Order 8
- Settling the Stars 9
- Interstellar Nations 9
- Age of War 10
- Birth of the Star League 11
- End of an Age 11
- Exodus 13
- Founding of the Clans 13
- Succession Wars 14
- Explorer Corps 15
- War Renewed 16
- Clan Invasion 16
- Radstadt 17
- Tukayyid 18

NAVAL TECHNOLOGY 19
- DropShips 19
  - DropShip Systems 19
- JumpShips 21
  - JumpShip Systems 23
- WarShips 25
- Fighters 26
- Weapon Systems 26
  - Ballistic Weapons 26
  - Energy Weapons 27
- Ship Construction 28
  - Fighters 28
  - DropShips 28
  - JumpShips and WarShips 28
- Space Stations 29
- Clan Navies 29

BATTLESPACE SCENARIOS 31

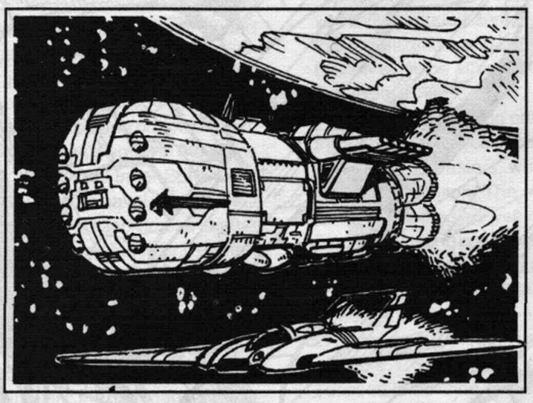


INTRODUCTION

COMSTAR CLASSIFIED REPORTSANCTUM BETA LEVEL CLEARANCE CCHD 35063056

FROM: Nicholas Hallam-Coyne, Precentor V-Eta
O: Cadets of the Sandhurst Royal Military Academy
ATE: 23 September 3056

Greetings to the warriors of Blake's true vision. This classified eport provides an understanding of naval combat vital to the ptimum efficiency of the Com Guard, the Inner Sphere's best ope of resistance to the depredations of the invading Clans. All Com Guard cadets are required to read this report. Though many adets may go on to serve with the infantry, armor, or BattleMech ranches of the Com Guard, an understanding of the pivotal role layed by the pilots and crews of JumpShips, DropShips, WarShips, nd aerospace fighters confers an dvantage on members of other ranches of military service. Never rget that the pilots' struggles gainst the enemy in the void of pace can open or close the way for round forces to reach the surface f a planet.



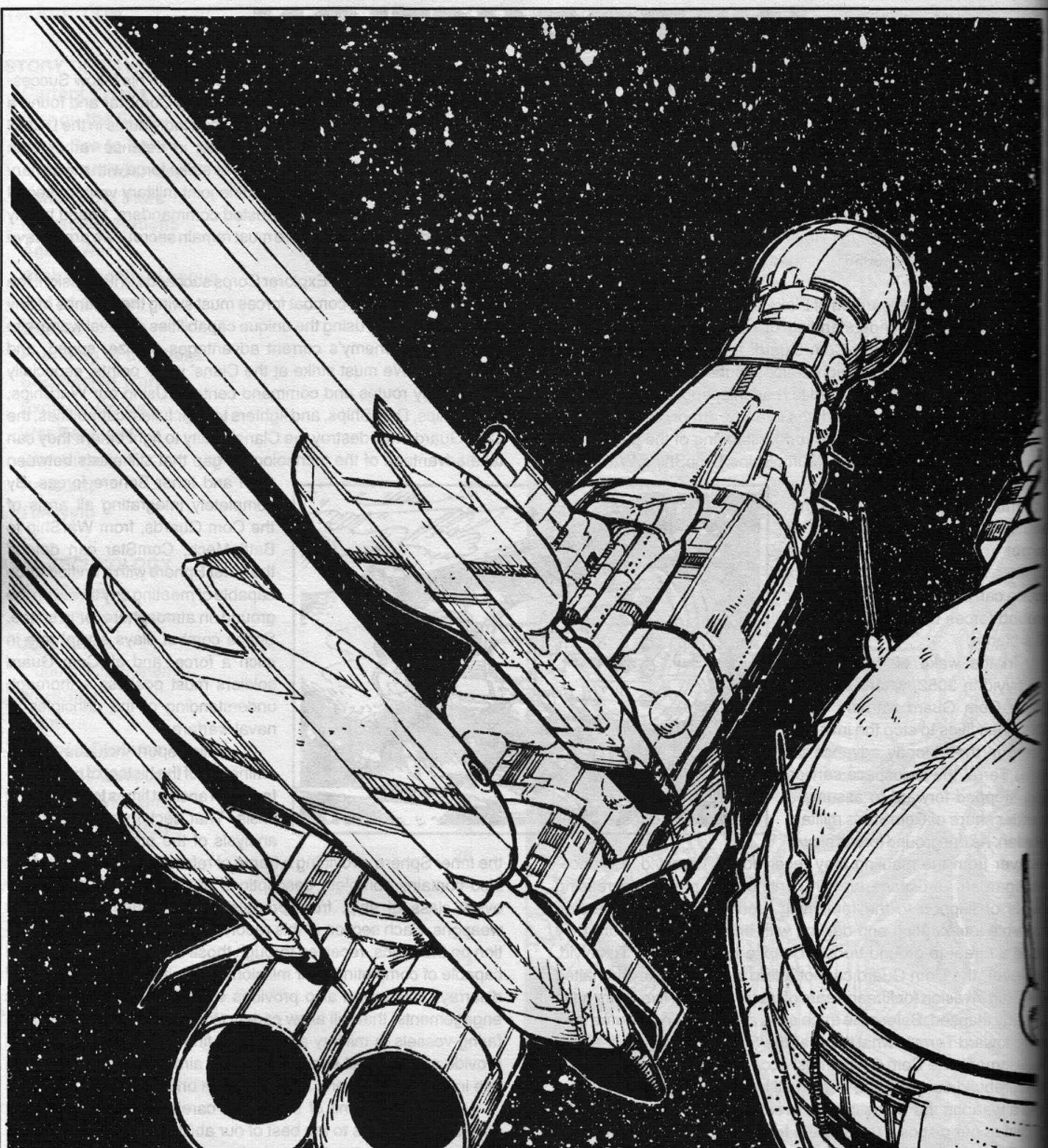
In the wake of the battle of ukayyid in 3052, where so many rave Com Guard warriors sacriced their lives to stop the invading lans *in their bloody advance to*ard Terra, the aerospace service as stepped forward to assume a reater share of ComStar's military urden. As our ground forces slowly ecover from the mauling they received on Tukayyid, the oncesregarded aerospace branch continues to provide increasing vels of support to the remaining ground divisions, whenever ssible intercepting and dealing with enemy forces before they se a threat to ground troops. Despite the victory on Tukayyid, owever, the Com Guard cannot afford to relax. Tukayyid halted e Clan invasion for fifteen years of truce, of which five years have ready elapsed. Before the truce ends and the Clans resume their ive toward Terra in what they call the *Stacalkas-Nomen*, the year judgment, the Com Guard must accomplish two vital tasks. We ust rebuild our strength, forging all branches of the Com Guard o a weapon the Clans cannot overcome, and we must use the rces at our disposal to carry the fight to the Clan invaders.

To that end, ComStar's Explorer Corps has recently begun a nt venture with Coordinator Theodore Kurita of the Draconis ombine, to seek out and destroy the capability of those left behind the Clan homeworlds to enter the fray. Unable to muster either enthusiasm or troops for such exploration from his fellow Successor Lords, the Coordinator wisely turned to ComStar and found a willing ally. Because certain highly placed individuals in the DCMS believe that that House's strength lies in defense rather than offense, the Coordinator is building his strike force with mercenary units, keeping the ComStar/Combine joint military venture secret from all but a few of his most trusted commanders. I need hardly remind cadets that this venture must remain secret if we are to have any hope of success.

Whether or not the Explorer Corps succeeds in its mission, the Com Guard's space-combat forces must swing the balance of any battle in our favor, using the unique capabilities of naval warfare to eliminate the enemy's current advantages of size, speed, and technology. We must strike at the Clans' weak points, especially their supply routes and command centers. Using our WarShips, JumpShips, DropShips, and fighters to their fullest capabilities, the Com Guard must destroy the Clans' ability to fight before they can take advantage of the technological gap that still exists between Clan and Inner Sphere forces. By completely integrating all arms of the Com Guards, from WarShip to BattleMech, ComStar can defend the Inner Sphere with a unified force capable of meeting any threat on the ground, in atmosphere, or in space. Space combat plays a vital role in such a force, and all Com Guard soldiers must possess a thorough understanding of the principles of naval warfare.

This report includes an examination of the history of naval warfare from ancient times to the present crisis. That section opens with an analysis of the present situation in the Inner Sphere, providing a frame of reference for past events. It also contains complete descriptions of current technologies for every class of ship, from propulsion techniques to the latest weapons. Each section of this report includes up-to-date information on the Clans, received through those agents still in place and capable of completing their missions, even in our present state of disarray. This report also provides scenarios, based on historic engagements, that will allow cadets to explore the uses of spacefaring vessels in military actions.The final sections of this report provide specs for all space-faring and airborne units currently in use in the Inner Sphere, including Clan units.

Read all sections of this report carefully. Only by using al available resources to the best of our ability does the Com Guar have a chance of standing against a renewed Clan onslaught—o forestalling it with an Inner Sphere blitzkrieg. On ComStar and it noble warriors depends the survival of the Inner Sphere.



HISTORY OF NAVAL WARFARE

This section provides a brief history of naval warfare from the initial use of waterborne vessels to wage war, to the current status of military conflicts fought in the vast ocean that is space. This section also discusses current events in the Inner Sphere and the effect those events are having on present-day military structure and manufacturing.

CURRENT EVENTS

In the past two years, several disturbing events have given new urgency to plans by the Successor States to develop and produce WarShips. During 3054 and 3055, Clan renegades masquerading as a pirate band raided the Federated Commonwealth using two WarShips, a *Congress* Class frigate and a *Black Lion* battlecruiser. The so-called Red Corsair and her band of renegades fought several battles against the Kell Hound mercenaries and Wolf Clan forces, losing an *Overlord* DropShip to Kell Hound aerospace attacks in a naval engagement at the world of Zanderij. After a resounding defeat on the ground at Arc-Royal, the renegades fled to the planet Elissa in the Clan occupation zone, where the Hounds and the Wolf Clan forces pursued and crushed them. The Red Corsair's activities proved that at least some in the Clans saw no dishonor in using WarShips against the Inner Sphere.

In May 3055, rumors began to emerge of a naval engagement fought in the Luzerne system, deep inside the Clan Smoke Jaguar occupation zone. Though reports conflict, a freelance unit operating with the tacit approval of the DCMS apparently staged a raid from a Combine guerrilla stronghold on Wolcott. The reason for the raid and subsequent engagement remains unclear, but the DCMS considered the mission of sufficient priority to commit four DropShips, including one of the *Achilles* Class, to support the raid. The Jaguars also appear to have taken the raid seriously; the commander of the Fourth Provisional Garrison Cluster stationed on Luzerne requested additional aerospace support from the Schuyler-based Second Jaguar Guards. If the rumors are true, the Combine may be further ahead on its WarShip development program than expected. Currently, the Draconis *Kyushu* Class frigate is scheduled to begin tests at the new Dieron shipyards in late 3057, with the Federated Suns *Fox* Class corvette beginning trials at Galax Shipyards in the summer of that year. Unconfirmed reports indicate that Rhonda Snord's Irregulars are using the Camelot Command facility in the Dark Nebula to construct a *Black Lion* Class battlecruiser, but even if the yards survive attacks by the Jade Falcons, it is unlikely that this vessel will launch before 3065.

In March of this year, Federated Commonwealth intelligence foiled a sabotage attempt against the new Boeing WarShip facility at Galax. An employee of Woodlake Associates, a contractor working on the yard's solar collection arrays, had tampered with the energy storage system, rigging key power cells to cause a massive explosion when power levels reached 95 percent. Had the final testing of the storage system gone ahead as planned at the end of the month, the ensuing explosion might easily have destroyed the station. The Intelligence Secretariat himself interviewed the employee, Timothy Barnes, a native of Syrma, before sentencing him to the high security prison on Bonneau. The reason for the suspected sabotage remains unclear, but given that Barne's homeworld is so near to Skye, a political motive seems likely.

In another potentially disruptive development, Captain-General Thomas Marik has recently created the Knights of the Inner Sphere, apparently in an attempt to create a class of MechWarriors loyal to him personally instead of to the various principalities of the Free Worlds League. He hopes to circumvent the rulers of each state in the League by using this force rather than the existing Free Worlds military, further solidifying his strong grip on the reins of that House. However, he appears to either have deliberately or inadvertently excluded aerospace pilots and conventional forces from this organization, and so may meet the same fate that befell Peter Davion when he attempted to strip one military arm of its power at the expense of another. We cannot be certain to what extent Thomas Marik is being pressured into these changes, particularly through the influence of power-hungry Knights of the Inner Sphere such as Paul Masters, who recently maneuvered himself into the lordship of Gibson. The military situation within the Free Worlds League is a tangled web of uneasily shifting alliances which may have devastating consequences. In addition, ComStar ROM agents report that forces allied with the Word of Blake used tactical nuclear weapons during the battles on Gibson in March of 3055. This grim news demonstrates the depths to which elements of the Free Worlds League will sink under the malignant influence of the Word of Blake. ComStar can only hope that the Word of Blake will not succeed in building or stealing WarShips in the near future.

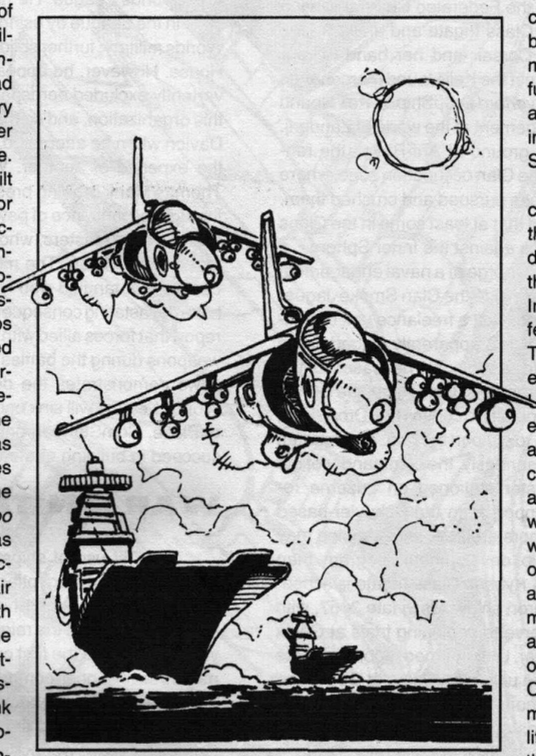
WAR ON THE SEAS

The first use of ships in warfare is attributed to Menes the Fighter, an early Egyptian pharaoh who used papyrus rafts to transport troops during his conquest of Egypt in approximately 3500 B.C. Not until the reign of Pharaoh Ramses III, two thousand years later, were the first custom-built warships launched. For the next three millennia, commanders used warships primarily as troop transports, and deck-bound combat between trained warriors of both sides dominated the few large naval battles that occurred. Crude shipboard weapons first appeared in the fifth century B.C., but most battles were still decided by boarding actions until the Romans developed shipboard weapons sophisticated enough to defeat the numerically superior fleet of Carthage.

Later, militaries discovered that long-range bombardment using iron bars, incendiaries, and powdered quicklime could cripple a vessel in advance of boarding actions, making the fighting sailor's job easier. The battle of Sluys, fought on the coast of Flanders in A.D. 1340 between English and French forces, provides a classic example of naval warfare by bombardment, in which Edward III of England decimated the French with savage bombardment/boarding tactics. The fleets of the world's great powers made a technological leap forward with the advent of shipboard cannon in the late fifteenth century. However, the tactics of earlier ages prevailed until the English defeat of the Spanish Armada in 1588 proved the advantages of smaller, better-balanced guns and more maneuverable craft. The age of sail and cannon prevailed through the first three decades of the nineteenth century, culminating in the Battle of Navarino in 1827, in which an Anglo-Russian-French fleet consisting of some 26 ships defeated the 65-ship Turkish fleet in southern Greece.

The end of the Napoleonic wars ushered in the next major naval revolution. The addition of a steam engine allowed ships to maneuver even when becalmed, and thus ended the age of the great sailing ships. By the latter half of the nineteenth century, almost no sail-powered vessels were being constructed, and the few still built often had a steam engine that provided primary propulsion. In these vessels, sail-power had been relegated to emergency use.

By the 1850s, most shipyards built warships with a layer of metal armor over the ship's hull, providing protection against enemy fire. By the beginning of the twentieth century, these so-called ironclads had given way to vessels made solely of metal. These ships also used steam engines, and boasted more accurate and maneuverable turret-mounted weapons than their predecessors. This period also saw the first use of naval aviation, primarily as reconnaissance for the naval batteries but also as bombers. Craft such as the *Airco D.H.G.* and the *Sopwith Cuckoo* saw action defending coastal areas during the First World War. In the Second World War twenty years later, air power came into its own, used to both attack and defend naval vessels. The Battle of Cape Matapan, in which British battleships using naval reconnaissance aircraft, bombers, and radar sank five battleships of the Italian fleet, represented the first example of the stunning destructive power of battleships and aircraft working together. American and Japanese carrier aircraft effectively decided the Battle of the Philippine Sea, and the resounding American victory came to be called the "Great Marianas Turkey Shoot." The second half of the twentieth century saw a steady refining of naval technology, with nuclear fission reactors replacing steam, missiles supplanting guns, and the nearly wholesale abandonment of armored vessels as the destructive power of weapons increased. By the end of that turbulent century, most vessels carried one or two aircraft (usually VTOLs). A specific class of carrier vessel had also emerged, often carrying more than one hundred aircraft. Combat at sea, waged with increasingly sophisticated aircraft and missiles, often took place without the opposing forces coming into visual range. The day of the gun, and even the warship seemed to be coming to an end.



FROM SEA TO SPACE

The race to put a human being into orbit, then to build manned stations and land people on the Terran moon and other planets became a prominent battlefield of the first Cold War between the American and Soviet empires. The end of the first Cold War in the 1980s forced both states to drastically cut back space programs, and by 1994 only one major project remained under construction and fully funded: the joint American, European and Japanese construction of a huge industrial space facility called Crippen Station, due for completion in 2004.

The end of the first Cold War also created enormous political change, the most notable of which was the dissolution of the Warsaw Pact and the Soviet Union in the early 1990s. In those first, heady days of freedom, few foresaw the horrors to come. Throughout the decade, political and economic reformers in the former USSR and its Eastern European satellites fought a constant rear-guard action against reactionary, hard-line communist forces. The hard-liners, aided by economic turmoil and world-wide recession, ultimately triumphed when they established the Republic of Russia. In 1997, the third coup attempt against the reformist government in Moscow finally succeeded, and led to a brief re-emergence of the old-style, communist Soviet Union. Caught unaware in the midst of disarmament, the NATO nations could do little but watch as the Soviets halted the withdrawal of Red Army forces from the former Warsaw Pact countries. Only the economic shambles of the rebellion-torn Soviet republics prevented the communist regime from launching a war against the militarily weakened West. Instead, they settled for another Cold War.

HISTORY OF NAVAL WARFARE

The second Cold War lasted from 1997 until 2005, when both sides were poised on the brink of nuclear Armageddon. Rapid rearmament programs launched by both NATO and the USSR made very real the possibility of a third World War, averted only by the ascension to power of Oleg Tikonov in 2004. As his predecessor Gorbachev had done almost twenty years before, the liberal Tikonov edged his nation and the world away from the nuclear brink and ended the second Cold War. In his first year in office, Tikonov reined in the military and by 2005 had reopened relations with the West. Though grateful for a return to sanity, NATO continued to guard against the possibility of renewed Soviet aggression; to guard against recommitting the mistakes of the previous decades, the Western allies launched Crippen Station into orbit in mid-2005. Though nominally an industrial manufacturing satellite, the station also served as the heart of the new Western Orbital Defense Network, or WODeN. Based on the 1980s-era Strategic Defense Initiative, this space-based ballistic-missile defense system contained electronic detection, tracking, and jamming systems as well as high-powered energy weapons.

In January 2011, Premier Oleg Tikonov signed the Tikonov Accords, formally requesting financial assistance from the United States to rebuild the Soviet Union's bankrupt economy. In return for aid, Tikonov agreed to hold fair and open elections within five years. Four hours later on the same day, a Muslim fanatic named Mustafa Khemar Rhasori assassinated Tikonov and his family by detonating a bomb in the Premier's staff car. A power struggle ensued in the Kremlin, and by March Ukrainian nationalists had seized Kiev and declared their independence from Moscow. Faced with the prospect that other republics might follow suit and take back their briefly held independence, KGB Director Admiral Sergei Tarantoff instituted martial law in a vain attempt to hold the disintegrating union together. This strong-arm tactic touched off the Second Soviet Civil War.

Fought more than a thousand years ago, the Second Soviet Civil War provided the impetus for the first combat fought in space. The massive Soviet military split into liberal and conservative factions, and NATO planned to intervene on the liberal side with a daring assault launched through the Latvian port of Riga. In January 2014, the hard-line Soviet commanders panicked and sought to prevent NATO intervention by launching a preemptive missile attack against Western targets. The Western Orbital Defense Network (WODeN), with Crippen Station at its core, engaged and destroyed all the missiles fired. Though primitive by modern standards, this first space battle proved critical to the survival of humanity.

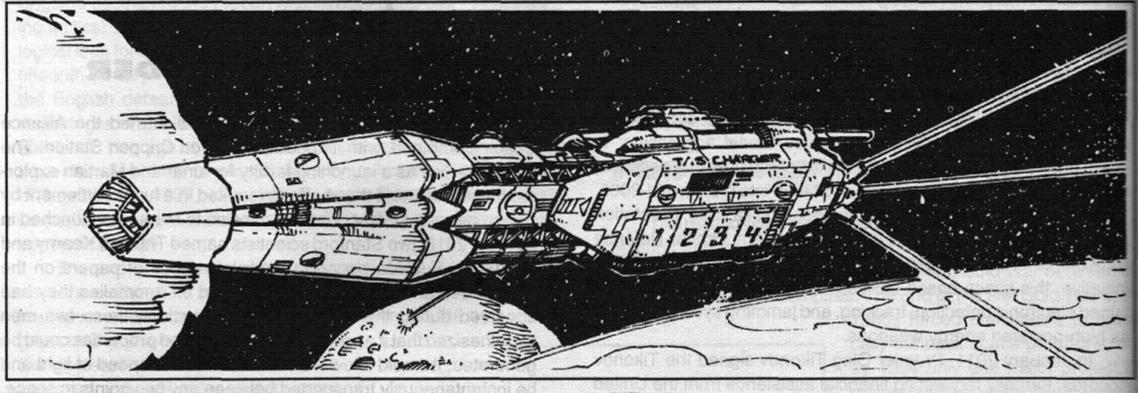
In the same year, NATO intervention prompted the last major surface naval engagements fought on Terra. The Soviet Northern Fleet attempted to prevent NATO landings in the Baltic and on the Kola peninsula, in the process destroying Riga with chemical weapons. This atrocity shocked both sides, and the conservatives bowed to the inevitable. By March the war was over.

A NEW WORLD ORDER

In 2016 the Western Alliance nations formed the Alliance Space Command, with its headquarters on Crippen Station. The station served as a launching facility for lunar and Martian exploratory missions, and these efforts resulted in a lunar settlement by December of that year. The first mission to Mars was launched in 2017. In 2018, two Stanford scientists named Thomas Kearny and Takayoshi Fuchida began to publish a series of papers on the possibilities of hyperspace travel. Based on anomalies they had observed during their work on fusion reactors, these two men hypothesized that if an energy field of specified properties could be generated, it would allow matter to exceed the speed of light and be instantaneously transported between any two points in space. Because their hypothesis conflicted with accepted, Einsteinian physics, the scientific community ridiculed their work and hounded the men from their positions as respected research scientists. Almost a century would elapse before subsequent discoveries vindicated the Kearny-Fuchida principles of hyperspace.

The early 21st century witnessed the development of the fusion reactor, quickly followed by a fusion-powered drive system. The first interplanetary craft, the AS *Columbia*, left its dock at Crippen Station on October 12, 2027. Powered by the new fusion drive, the *Columbia* took a mere 14 days to arrive in orbit around Mars. The Alliance used this technological breakthrough to establish bases throughout the Terran system, including permanent bases on Mars and Luna. The Alliance also launched scientific missions to Jupiter, Saturn, and the asteroid belt, greatly expanding human knowledge of space and space travel. In 2028, scientists and the Alliance Parliament established the Magellan Program, an ambitious project to build unmanned, fusion-powered, interstellar vessels and send the craft to explore other star systems. Eight probes were built and launched between 2029 and 2034, and by 2050 three of the Magellan ships had provided Terran scientists with evidence of habitable worlds outside the Sol system. Unfortunately, the staggering cost of building and outfitting a manned craft to explore these newfound, habitable worlds prohibited immediate exploration. Not until more than fifty years later would a human being travel to a planet outside the Sol system.

As the 21st century drew to a close, the Western Alliance renamed itself the Terran Alliance to reflect the unity of the planet. However, even then rumblings of discontent against the richer nations by the poorer foreshadowed the turmoil to come. The poorer nations resented the staggering amount of money being spent on space exploration and technology, but research went steadily on. Refinements in existing technology, especially metallurgy and space vehicle construction, allowed the Alliance to construct a small fleet of fusion-powered craft sporting laser and projectile weapons attached to their hulls. Though crude by modern standards, these armed vessels proved extremely effective in policing the increasingly busy space lanes.



SETTLING THE STARS

In 2102, researchers at the universities of Auckland and Ottawa rediscovered and vindicated Kearny and Fuchida's Pan-Dimensional Gravitational Mathematics. After a fourteen-month debate, the Alliance approved funding for the Deimos Project, a crash program to build the first faster-than-light spacecraft. Despite protests and the further political unrest provoked by the project's cost, Deimos survived and the project's test ship slipped its moorings on August 28, 2107. Towed to a specific point in space north of Sol (called the zenith jump point; this distance was far enough away from Sol and any other major planets that the vessel would be able to "jump" and not be torn apart by gravitational forces), the vessel was to "jump" via the Kearny-Fuchida hyperspace field to a point south of Sol (the nadir jump point). At 12:00 AM GMT on September 3, the craft made its maiden voyage, jumping from Terra's zenith jump point and arriving at the nadir point in less than a minute. Having proved that the technology worked, scientists turned their attention toward manned hyperspace travel. In February of 2108, Raymond Bache became the first human to travel through hyperspace, propelled by the newly christened Kearny-Fuchida drive. He suffered only mild dizziness and nausea, and the successful experiment encouraged the Alliance scientists to press ahead with the Deimos Project's next phase.

On December 5, 2108, the TAS *Pathfinder* made its historic jump to Tau Ceti. Commanded by Norm McKenna, the crew landed on the world of Tau Ceti IV, a planet so like Terra that the new arrivals renamed it New Earth. To the distress of the Terran Alliance's poorer nations, the Alliance Parliament immediately sank money into building a fleet of starships and colonizing New Earth. By 2116, humanity had established its first extra-solar colony on New Earth. The Alliance immediately recognized the potential problems of maintaining control over interstellar colonies and so authorized the formation of a six-JumpShip Terran Space Navy in 2120. The first military JumpShip, the TAS *Charger*, emerged from the Terran shipyards in 2122.

Emigration from Terra became a flood over the next 100 years. By 2235, humanity had established 600 colonies in a sphere 120-light years in diameter around the homeworld, but the difficulty of communicating over such vast, interstellar distances made running such an empire from a central location impractical. In 2236, a coalition of far-flung colonies led by the world of Denebola declared independence from the Terran Alliance. This so-called "Outer Reaches Rebellion," lasting from 2235 to 2237, proved the downfall of the imperialist, Expansionist Party that had ruled the Terran Alliance for decades. They sent the Colonial Marines to blockade the rebellious colonies and subdue the populations, but their naval superiority meant nothing in the ground-based war that the grimly determined colonies forced them to fight on every world. Within 18 months the shamed Marines retreated and the Expansionist government on Terra collapsed. The Liberal Party succeeded to power and followed a strict isolationist line, and the frontier worlds suddenly found themselves alone. Many colonies did not survive their unexpected independence, and the ruins of many of these colonies still bear testimony to the central government's abrupt withdrawal. One such colony starved to death for lack of Terran food supplies. Another failed because a single storm damaged the colony's water purification system and they could not get spare parts from Terra.

INTERSTELLAR NATIONS

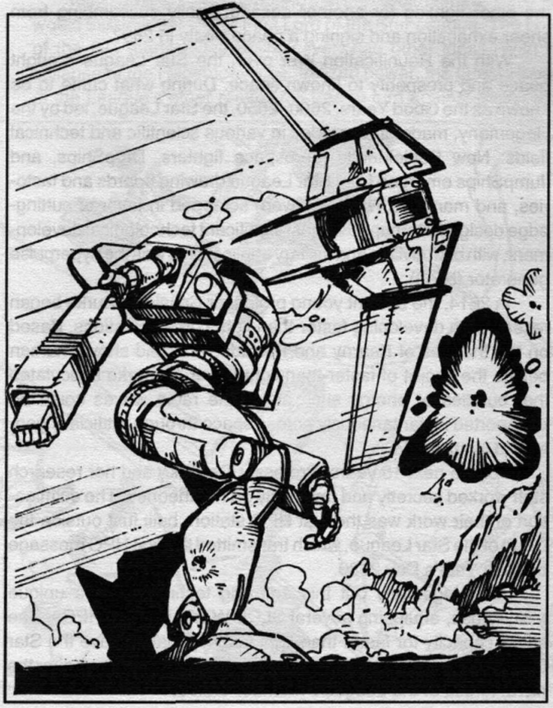
Throughout the 23rd and early 24th centuries, new states emerged among the far-flung human worlds. The 23rd century saw the rise of the Rim Worlds Republic in 2250. This nation, in the Periphery on the edge of known space, produced a leader who would play a sinister a role in human history five centuries later. Twenty years after the Rim Worlds came into being, two nations formed that would become modern-day Successor States: the Free Worlds League (2271), a balkanized collection of squabbling principalities, and the Capellan Hegemony (2270), that would one day become the Capellan Confederation. The other three nations that developed over the centuries into the Successor States came together in the first half of the 24th century: the Federated Suns in 2317, the Draconis Combine in 2320, and the Lyran Commonwealth in 2341. Out among the stars, humanity grew and prospered; but for Terra, the 23rd and early 24th centuries brought only turmoil and confusion.

The failure of the Expansionist government to put down the Outer Reaches Rebellion brought the isolationist Liberal party to power in 2237. By 2242, the Liberals had in turn been forced out by a disgruntled population, and for the next 70 years the once-strong Terran Alliance veered from one crazy-quilt political coalition to the next. The Alliance finally collapsed in chaos in 2314, and anarchy ruled the planet until July of 2315, when Fleet Admiral James McKenna stepped into the vacuum of power to prevent a civil war. Demonstrating the awesome power of the navy he commanded by obliterating two small, uninhabited islands, McKenna forced the Alliance parliament to dissolve and founded a new order on Terra. McKenna's Terran Hegemony rose like a phoenix from the ashes of the fallen Alliance, and under McKenna's steady hand took its first steps toward assuming its place at the head of humanity. Michael Cameron, McKenna's successor as the Hegemony's Director-General, would help assure this place by founding a dynasty whose later generations would create humanity's crowning achievement.

AGE OF WAR

Though the period most historians have dubbed the Age of War did not begin until the close of the 24th century, the years from 2316 to the 2390s served as a dress rehearsal for the horrors to come. James McKenna set the stage by attempting to expand the Terran Hegemony's borders at the expense of newborn nations and independent former colony worlds. Many of McKenna's targets fought back, through a combination of arms and diplomacy; the threat of a Hegemony takeover led directly to the formation of the Federated Suns and the Draconis Combine. Having successfully stalled McKenna, the multitude of nascent states sought to expand their borders, often at the expense of their neighbors. McKenna's death and the succession of Director-General Michael Cameron brought a lull in the fighting, as the various nations consolidated their power among the stars. In 2398, a territorial dispute between the Capellan Confederation and the Free Worlds League touched off galaxy-wide planet grabs, and began an Age of War since unmatched in its viciousness. The various atrocities committed during these years culminated in the Capellan world of Tintavel being virtually razed in 2412. The widespread destruction and loss of civilian life so horrified Capellan Chancellor Aleisha Liao that she determined to civilize warfare by drawing up the Ares Conventions, rules of war designed to prohibit atrocities and limit destruction of civilian life and property. All the Inner Sphere states signed the Conventions, though many Periphery nations refused. These conventions of war, though limiting damage to non-combatants, inadvertently legitimized warfare as a means of settling political disputes, and resulted in perpetual war between the states of the Inner Sphere.

Several notable naval engagements occurred during the Age of War. The Capellan Confederation's attack on the Davion world of Novaya Zemlya in 2399 brought the Federated Suns into the war and marked the first use of a massed fleet of heavily armed space vessels to bombard a world from orbit. The Terran Hegemony attack on the Marik fleet at Oriente in 2475 inflicted history's greatest loss of naval assets on the Free Worlds League; the Hegemony forces destroyed more than twenty Marik WarShips, and toppled the government of the League's Captain-General Carlos Marik. By then, however, the Terran Hegemony's development of the BattleMech, first used in combat against the Draconis Combine in 2443, had launched a new age in military technology and thinking. The fearsome power of the huge, metal war machines focused attention on ground combat at the expense of space-based warfare. Where fighter pilots and naval officers had once garnered military budgets and media attention, the BattleMech provided a new way to wage war and a new breed of hero. This early rivalry set a pattern for relations between the aerospace and BattleMech arms of the military that remains unchanged to this day—MechWarriors view pilots as snobs, and pilots see MechWarriors as upstarts. On more than one occasion these tensions have resulted in outright hostility between the different branches.



BIRTH OF THE STAR LEAGUE

As the Age of War wound down in the mid-26th century, the Terran Hegemony's Director-General Ian Cameron began to lay the groundwork for the Sphere-wide peace treaty that would bind the major Inner Sphere states together into a grand alliance. By 2571, Ian had persuaded the leaders of all the Inner Sphere nations to join in his dream of a human society no longer torn by war, and together they forged the noble and glorious Star League. Despite its stated peaceful intentions, the six-state pact initiated a war against the Periphery states within four years of its founding. Using the might of the newly formed Star League Defense Forces (SLDF), Cameron accomplished by force what he had failed to achieve through diplomacy and dragged the Periphery states protesting into the League. The navies of the Star League and its member states played a considerable role in the conflict that came to be known as the Reunification War. Many battles occurred in space, a number of which did not go in the League's favor. In the infamous Case Amber, the Taurian Concordat navy destroyed 20 Federated Suns vessels after provoking the Davion fleet into an ill-advised naval offensive. Four years later, in 2581, Admiral Janissa Franklin of the Star League broke the back of the Taurian navy in a fierce battle over the world of Robsart. The Canopian navy met a similar fate at the hands of Captain-General Marion Marik in 2583, and by 2587 the naval phase of the war had drawn to a close. The Taurian Concordat and the Rim Worlds Republic dragged out the bitter fighting for another decade, finally succumbing from sheer exhaustion and signing a peace treaty in 2597.

With the Reunification War over, the Star League brought peace and prosperity to known space. During what came to be known as the Good Years, 2600–2650, the Star League, led by the Hegemony, made great strides in various scientific and technical fields. New BattleMechs, aerospace fighters, DropShips, and JumpShips emerged from Star League drawing boards and factories, and many old WarShips were scrapped in favor of cutting-edge designs. Perhaps the most significant technological development, with both civilian and military applications, was the hyperpulse generator (HPG).

In 2614, the brilliant young professor Cassie DeBurke began research on developing faster-than-light communications. Based on the theories of Kearny and Fuchida, who had shown human beings the secret of faster-than-light travel, DeBurke speculated that bundles of energy such as simple radio waves could be transported instantaneously across space through artificially generated jump points.

For the next 15 years, Professor DeBurke and her research staff worked secretly and feverishly on her theories. The culmination of their work was the first HPG station, built just outside the Court of the Star League, which transmitted the first HPG message on New Year's Day 2630.

The Hegemony put this amazing technology to a unique military use, equipping several SLDF WarShips with HPGs. The ships' capacity for faster-than-light communication gave the Star League navy a significant tactical and strategic advantage over the naval forces of the League's member-states.

Though the Star League outwardly kept the peace, the conflicts between its members simmered beneath the surface. In the 2690s, First Lord of the Star League Jonathan Cameron led the SLDF in a massive and unexpected military buildup that would have disastrous consequences almost a century later. Among his military innovations was the Space Defense System (SDS), a series of free-roving drone WarShips known as *Caspars* that were deployed to defend Hegemony worlds. Though the First Lord promised to share the technology with his fellow League members, he never did so.

END OF AN AGE

The war that destroyed the Star League began as a minor rebellion in 2765, when New Vandenberg and seventeen other Periphery worlds revolted against the latest in a series of stiff League-imposed taxes. Richard Cameron, the young First Lord of the Star League, ordered the Star League Defense Force to suppress the revolt. Commanded by General Aleksandr Kerensky, the bulk of the SLDF's WarShips and ground forces traveled to the Periphery, where they found themselves bogged down in a Periphery-wide rebellion. Of all the Periphery states, only Stefan Amaris' Rim Worlds Republic remained loyal to young Cameron and the Star League.

No one, least of all Richard Cameron, suspected that Amaris' outward loyalty masked a plot to take over the Star League. Amaris had spent years cultivating the lonely First Lord's affection and trust; when the New Vandenberg revolt stripped the Hegemony of most of its defenders, Amaris persuaded Richard Cameron to station Rim Worlds troops throughout the Hegemony to protect it. Having set his conquering armies in place, Amaris made his move.

On December 26, 2766, Stefan Amaris assassinated First Lord Richard Cameron in the throne room at the Court of the Star League and took control of the Hegemony. Hearing of Amaris' coup, Kerensky immediately declared a cease-fire in the Periphery and began to plan the liberation of Terra. Kerensky's army conquered the now-outlawed Rim Worlds Republic, and after an eighteen-month rest and refit in preparation, began the long campaign to liberate the Terran Hegemony from Amaris the Usurper. A few naval engagements occurred during the Rim Worlds campaign, but the Republic had few WarShips and offered the SLDF fleet little opposition. The Star League navy faced its greatest test during the campaign for the Hegemony, battling the Space Defense Systems that protected many Hegemony worlds. The system's computer-controlled WarShips and huge ground-based weapons posed a severe threat to any space vessel.

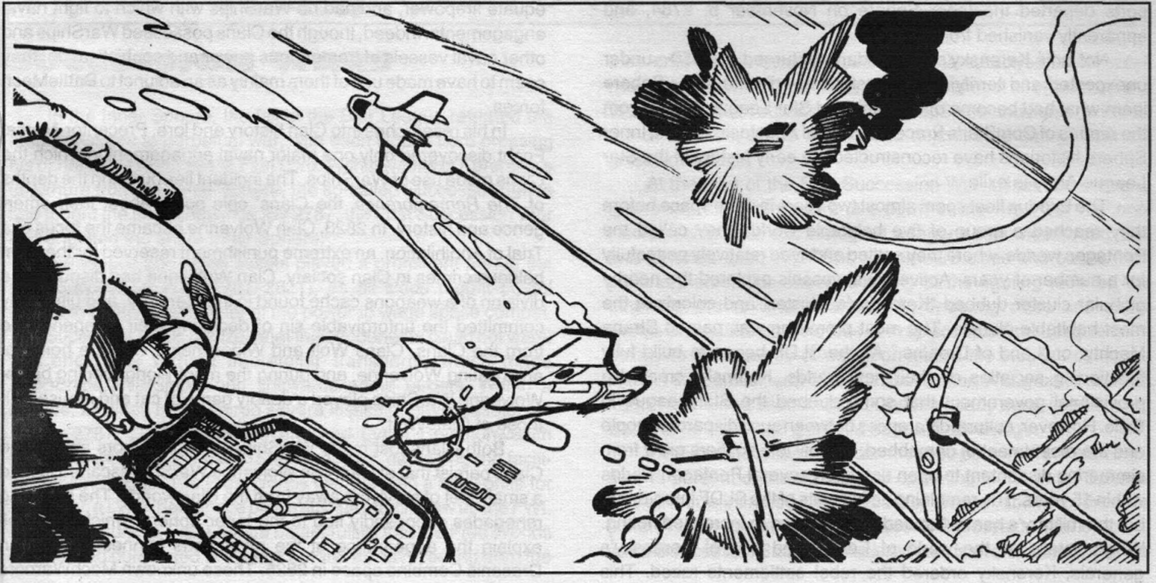
In 2774, Amaris pulled back his forces from twelve Hegemony worlds in order to better protect Terra. Kerensky captured the worlds, among them Nirasaki, home of the Nirasaki Computers Collective, a major developer of software for the SDS system. In the ruins of the NCC research facility, Kerensky's forces found a carefully hidden cache of data that provided a clue to defeating the SDS. SLDF communications specialists developed an electronic countermeasure that swamped the drone WarShips' communications channels, and in March of 2775 Kerensky tested the device in the invasion of New Home, a world protected by the SDS. The new defenses used by the SLDF crippled most of the drones and scrambled the circuits of the ground-based missile and laser batteries, and the Star League fleet quickly destroyed the drone WarShips. Flush with success, the SLDF staged numerous assaults from 2775 through 2776. By the end of that year, only Terra remained in the Usurper's grasp.

The battle for Terra, called Operation Liberation, began on January 23, 2777. To date, this climactic battle remains the largest naval engagement in human history. The Reagan Space Defense System that protected humanity's homeworld was far more sophisticated than its fellow SDS systems, and the SLDF's jamming device was not powerful enough to defeat it. The General knew that his naval forces would have to batter their way through the system's huge battle stations and drone WarShip fleets if they hoped to make planetfall. In the first assault, a fleet of auto-piloted JumpShips and DropShips loaded with explosives rammed and destroyed all the immobile battle stations around the Sol system's jump points. Receiving word of the successful first attack wave, the main fleet of 932 ships made the jump to Terra. Only 20 failed to arrive ready for battle, and the remaining 912 began a high-speed approach toward the planet. Four days before the main force would arrive in Terran orbit, 40 of the SLDF WarShips jumped to within a day's travel of Terra, with orders to destroy as many of the SDS' *Caspar* drone WarShips as possible. Over the course of two days, this small fleet succeeded in destroying more than 100 drones before succumbing to the sheer number of robot ships.

Meanwhile, the main fleet sped toward Terra, engaged in a running battle with the remaining 150 drones. Using the tactics that long-dead admirals had programmed into their computers, the drones shadowed the SLDF fleet just outside of weapon range and attacked in twos and threes. Twelve hours from Terran orbit, the *Caspar*s attacked en masse. The drones damaged or destroyed many SLDF transports and WarShips, but the fleet pressed on, some ships even resorting to suicide ramming attacks to clear the way for their fellow vessels. The running battle resulted in countless citations for valor, most awarded posthumously. Despite the losses, a substantial part of the fleet reached Terran orbit and prepared for the drop to the surface.

Swarms of fighters descended to the planet, destroying 30 key laser and missile batteries on the continents of Europe and Asia. Numerous WarShips braved ground fire to bombard SDS ground bases, and more fighter squadrons faced off in Terra's skies against Republican fighter pilots loyal to Amaris. Because of the skill and determination of Star League aerospace pilots, SLDF ground forces safely dropped onto Terra. Their job done, many WarShips withdrew to a safe distance, but others remained in orbit, ready to neutralize additional SDS bases if necessary. After a bitter ground battle that lasted most of 2778 and 2779, the SLDF liberated the Court of the Star League on the 29th of September and ended the war. Kerensky ordered Amaris executed, and the people of the Star League heaved a collective—and premature—sigh of relief. The Usurper was dead, but the Terran Hegemony lay in ruins and the Cameron line had been wiped out. It soon became clear that without the moderating influence of the Cameron dynasty, the Star League could not hope to survive.

Many ordinary citizens hoped that the heroic General Kerensky would assume the title of First Lord of the Star League. The Lords of the five member-states, however, had other ideas. With the collapse of the Hegemony's centralized power, the Great Houses of the League's other realms felt free to turn against each other.



The five Lords met on Terra in 2780, ostensibly to choose a new First Lord; but hidden enmities resurfaced as each Lord jockeyed for the coveted title. In the end, the Lords agreed on only two things: appointment of the blessed Jerome Blake as Minister of Communications, and the revocation of General Kerensky's title, "Protector of the Star League." For another ten months, the House Lords wrangled, but ultimately failed to choose a new First Lord. On August 12, 2781, the Lords formally dissolved the Star League.

EXODUS

Disgusted by the selfish, short-sighted actions of the House Lords, and anticipating the ceaseless wars to come as they fought among themselves for ascendancy, Kerensky summoned his most loyal officers and outlined a plan to take the SLDF away from known space and found a new Star League. Dubbed Operation Exodus, many soldiers saw the plan as the only way out of an untenable position. Though 20 percent of the SLDF refused to abandon the Inner Sphere to its fate, the majority eagerly agreed to follow Kerensky. Those who stayed behind heeded Kerensky's orders to work with Jerome Blake in securing Terra and rebuilding the war-shattered Hegemony worlds. A few remaining units eventually succumbed to pressure from the Great Houses and joined House militaries or became mercenaries. In light of the centuries of unremitting Succession Wars that followed the Star League's collapse, it is fortunate that no SLDF WarShip commanders opted to stay in the Inner Sphere. Even a few of the Hegemony's sophisticated WarShips, with their unique, faster-than-light communications, might easily have tipped the balance of power with disastrous consequences for humanity.

Kerensky's Exodus fleet of 402 WarShips and 1,349 transports departed the Inner Sphere on November 5, 2784, and apparently vanished from history.

Not until Kerensky's descendants returned in 3050—under unexpected and terrifying circumstances—did the Inner Sphere learn what had become of the vanished Star League Army. From the reports of ComStar's Precentor Martial Anastasius Focht, Inner Sphere historians have reconstructed the early history of the Star League Army in exile.

The Exodus fleet spent almost two years in deep space before they reached a group of five habitable worlds they called the Pentagon worlds, where they settled and lived relatively peacefully for a number of years. Active naval vessels explored the nearby globular cluster dubbed "Kerensky's Cluster" and colonized the most habitable planets. The most promising was named Strana Mechty, or "Land of Dreams." As the SLDF began to build fully functioning societies on their new worlds, Kerensky created a provisional government that some dubbed the Star League in Exile. However, cultural differences between such disparate people and the resentment of demobbed, forcibly idle soldiers grew from simmering discontent to open rioting on several Pentagon worlds within 15 years. The remaining active units of the SLDF intervened, but the military's heavy-handed response led to increased rioting. When rioters on the world of Eden killed one of Kerensky's generals, Kerensky ordered the rebel settlements razed. This brutal response simply added to the colonists' resentment against the Star League forces.

In 2801, the aging Aleksandr Kerensky suffered a heart attack and died at his post, leaving his people without a leader. In an eerie parallel to the last days of the Star League, each of the numerous division commanders of the SLDF pressed his own claim to succeed Kerensky, and the disorder set the stage for civil war. Nicholas Kerensky, Aleksandr's son and designated heir, believed that his father's ideals could not survive the political turmoil; in order to preserve what his father had fought for, Nicholas led a force of 800 loyal warriors and other citizens to the cluster world of Strana Mechty in a second Exodus. Within three weeks of Nicholas' departure, all-out war erupted on the Pentagon worlds, laying them waste in a futile struggle for power.

FOUNDING OF THE CLANS

The Exodus Civil Wars lasted almost twenty years, and surpassed even the Inner Sphere's First Succession War in ferocity. All sides used orbital bombardment and nuclear weapons indiscriminately in the first few months, until they had wiped out their ability and facilities to produce such weapons. The Navy, sickened by the savagery of the conflict, soon joined Nicholas Kerensky on Strana Mechty. During this self-imposed exile, Kerensky organized his 800 loyal warriors into Clans of 40 warriors each, setting the foundations for the disciplined, caste-based, warlike society that would one day return to ravage the Inner Sphere. In 2821, these elite warriors returned to the Pentagon worlds as conquerors, liberating them from the few remaining rebel forces. Though aerospace fighters saw some action during the campaign, the rebels faced Kerensky's Clans with pitifully inadequate firepower, and had no WarShips with which to fight naval engagements. Indeed, though the Clans possessed WarShips and other naval vessels of tremendous power and sophistication, they seem to have made use of them mainly as an adjunct to BattleMech forces.

In his researches into Clan history and lore, Precentor-Martial Focht discovered only one major naval engagement in which the Clans made use of WarShips. The incident lies buried in the depths of *The Remembrance*, the Clans' epic poem about their emergence and history. In 2823, Clan Wolverine became the focus of a Trial of Annihilation, an extreme punishment reserved for the most heinous crimes in Clan society. Clan Wolverine had disputed the division of a weapons cache found in their territory, and ultimately committed the unforgivable sin of declaring their independence from the Clans. Clans Wolf and Widowmaker won the honor of annihilating Wolverine, and during the month-long running battle, Wolverine WarShips played a deadly game of cat and mouse with those of Clan Wolf.

Both Clans lost many WarShips, though rumors among the Clans persist that at least one Wolverine WarShip escaped to lead a small fleet of survivors away from the Clan worlds. The surviving renegades supposedly fled to the Inner Sphere, which may well explain the appearance of the mysterious Minnesota Tribe in Draconis Combine space in 2825. These unknown MechWarriors raided several Combine worlds, fighting in brand-new 'Mechs in ways alien to the Inner Sphere, before they withdrew from the Periphery. No one knows their present whereabouts, but we cannot discount the possibility that another divergent human culture, hostile or friendly, exists beyond the area of space known either to the Clans or the Inner Sphere.

The Wolverine Trial of Annihilation led to the destruction of Clan Widowmaker by Clan Wolf ten years later. Tensions between those two Clans over their respective positions in the Trial festered, resulting in a Trial of Refusal in which Clan Widowmaker's MechWarriors killed Nicholas Kerensky. The enraged Wolf Clan destroyed Clan Widowmaker in a three-day battle in which the Wolf Clan fleet lost still more WarShips. Despite the assets absorbed from the defeated Clan Widowmaker, the fleet has yet to recover, even after two centuries.

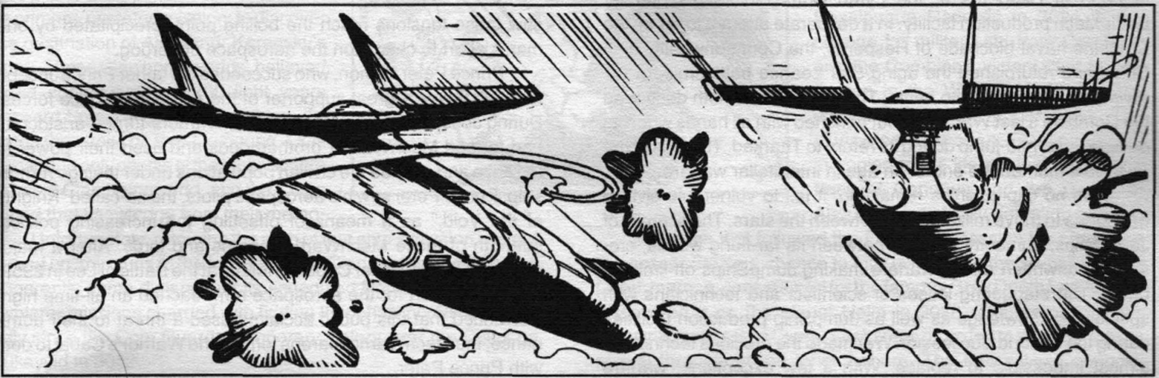
SUCCESSION WARS

In the Inner Sphere, the fall of the Star League returned the member-states to perpetual war, with each House Lord pressing his or her claim to the title of First Lord. Within weeks of Kerensky's departure from the Inner Sphere, the so-called Successor States had fought the first skirmishes. By 2787, the First Succession War had engulfed the entire Inner Sphere.

Aerospace and naval assets played a prominent part in the First Succession War (2787–2821), as all sides fought orbital battles to deprive each other of the power to wage space combat. The Successor Lords realized that their opponents could not wage war effectively without interstellar transports, which made JumpShips, WarShips, and shipyards prime targets. Within a decade, all sides had suffered severe losses of naval assets.

In 2787, Marik WarShips attacked Lyran Commonwealth shipyards all along the Marik/Steiner border, damaging the facilities beyond repair. The Free Worlds League paid a hefty price for its victory; a Lyran aerospace pilot's suicide attack blew up the FWL *Rasalas*, a surplus Star League battlecruiser that the Free Worlds League had purchased five years before. Its navy reeling from the Marik assault, the Lyran Commonwealth stationed a fleet of nearly 300 ships over the industry-rich planet of Skondia, which had suffered a damaging Combine raid in 2786. In the largest naval battle fought since Operation Liberation, the Commonwealth fleet clashed with a Draconis Combine armada above Skondia, devastating both sides. Less than 100 Lyran ships remained intact after the battle, and the Combine eventually captured the planet.

Concurrent with its successful campaign against the Lyran Commonwealth, the Combine launched a devastating offensive against the Federated Suns, breaking through the underdefended border zone and pushing deep into enemy territory. In 2790, desperate to save his realm from conquest, Prince John Davion launched a huge naval campaign into Combine-occupied territory. The Davion task force destroyed more than 20 enemy JumpShips and DropShips, pressing its attack with brilliant results until the battle at the tiny, one-world system of Cholame. A fleet of Combine WarShips and aerospace fighters ambushed the Davion fleet as they entered the system, touching off a cataclysmic, six-week naval battle in which both sides destroyed almost all of each other's WarShips and an equal number of DropShips and fighters. For all the destruction, at the battle's end neither side had gained any great advantage.



At the start of the First Succession War, all parties chose to ignore the rules of warfare laid down in the Ares Conventions. Nuclear, chemical, and biological weapons saw widespread use, and all sides used WarShips to bombard cities and bases from planetary orbit. The sheer savagery of the fighting reduced the Inner Sphere to virtual barbarism, rendering cities and entire worlds uninhabitable. The loss of irreplaceable Star League technology to the ravages of war soon meant the Houses could not sustain the conflict, and the First Succession War ground to a halt from sheer exhaustion in 2821. Despite nearly thirty-five years of warfare, no state had gained a decisive advantage.

The First Succession War destroyed 90 percent of the WarShips and 45 percent of the JumpShips operating in the Inner Sphere, and all but eliminated the Successor States' ability to produce either. Within seven years, the Second Succession War erupted, and the Successor States squandered their last remaining WarShips in that long, drawn-out conflict. During the brief lull between the first two Succession Wars, the Great Houses struggled to produce transport JumpShips from the remnants of their once-bustling shipyards, determined to continue the fratricidal struggle for power no matter what the cost in human lives.

The Second Succession War began with a Capellan assault against the Federated Suns in 2828, though many historians date it from the Combine offensive against the Lyran Commonwealth in 2830. This conflict lasted for more than three decades and came close to completely destroying the Inner Sphere's technology base, though all parties stopped using weapons of mass destruction. Not even the most fanatical leader wished to rule over a nuclear or chemical wasteland. For the navies of the Successor States, the losses of the Second Succession War doomed them to a secondary role in combat throughout the next two centuries. All sides used their remaining WarShips sparingly; even so, their numbers steadily diminished. The last great naval battle occurred in 2853 at Hesperus II, the Lyran Commonwealth's premier BattleMech production facility. In a desperate attempt to break the Combine naval blockade of Hesperus, the Commonwealth High Command refurbished the aging Star League battlecruiser LCS *Invincible* and sent it into battle. The gallant behemoth destroyed the Combine's last WarShips, but perished with all hands when its drive failed in mid-jump during its return to Tharkad. The loss of the *Invincible* marked the end of an age in interstellar warfare.

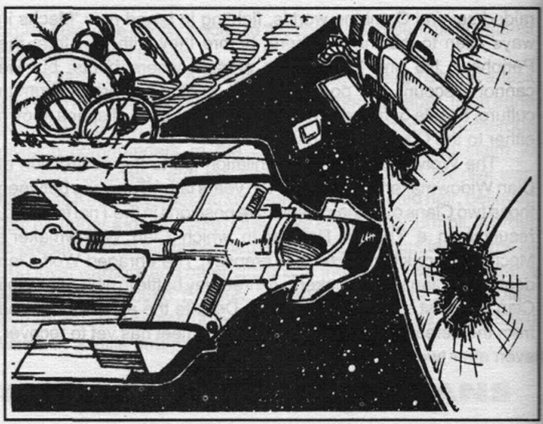
With no capital ships remaining, it fell to vulnerable civilian transports to move military units between the stars. The scarcity of JumpShips, humanity's lifeline between its far-flung worlds, created an unwritten rule of warfare making JumpShips off-limits in battle. The staggering losses of scientists and technicians with specialized knowledge as well as JumpShip production facilities during the Second Succession War made the precious technology almost impossible to replace. With a few exceptions, warfare returned to the institutionalized, lower-level carnage common during the Age of War four centuries earlier.

The Second Succession War wound down by 2864, more from attrition than from any organized peace treaty.

After a second brief respite, the Third Succession War erupted in 2866. It began when advance forces of the Draconis Combine invaded the coreward portion of the Lyran Commonwealth; war soon spread across the Inner Sphere. Combat became such a fact of everyday life that the period became known simply as "the Succession Wars." However, campaigns during this period never matched the violence of the previous two wars.

This conflict dragged on for 160 years as the Great Houses, already exhausted from the two previous wars, continued to batter each other with their dwindling resources.

Deprived of WarShips and reluctant to attack JumpShips, the Inner Sphere navies found themselves playing an ever-dwindling role during the Third Succession War. Ground combat and the BattleMech assumed center stage; most aerospace fighters were relegated to a ground-support role. Aerospace had gone from being the pivotal arm of the military to serving as an afterthought, and friction between the aerospace and MechWarrior arms of the services grew. A notable series of incidents in the Federated Suns saw these tensions reach the boiling point, precipitated by one man's effort to champion the aerospace underdog.

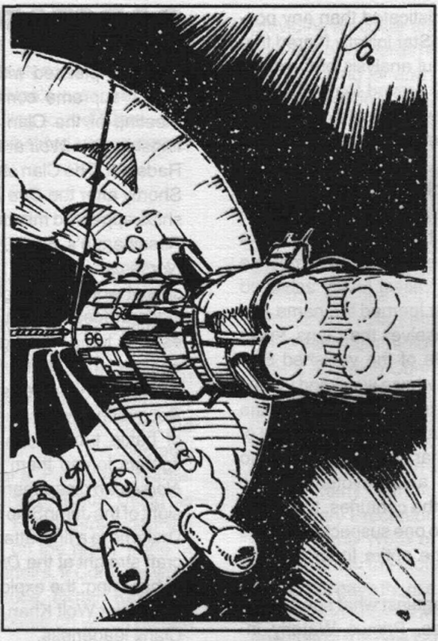


Prince Peter Davion, who succeeded his father Prince Joseph II in 2931, was a great supporter of the AFFS aerospace forces. During Joseph's reign, powerful MechWarriors-turned-aristocrats had formed MechWarrior brotherhoods and used their power to terrorize and subdue the civilian populations under their governorship. Prince Peter saw his aerospace pilots, the so-called "Knights of the Void," as a means of offsetting the increasing political strength of these MechWarrior barons and lords. After a major aerospace victory over Capellan forces at the Battle of Lee in 2952, popular support for the aerospace arm reached an all-time high. Convinced that this public acclaim posed a threat to their dominance, the MechWarrior barons formed the Warrior's Cabal to deal with Prince Peter.

Prince Peter used the Battle of Lee and its aftermath to purge the AFFS of those MechWarriors who opposed his attempts to reform the military, falsely believing that his beloved aerospace could protect him. The Cabal struck back, assassinating Peter on the world of Breed in 2961. The Cabal had hoped to gain widespread public support for its stance, but could only muster allies in the Draconis March. Peter's son and successor, Prince Andrew, moved swiftly and decisively against the rebels, preventing what could have grown into a civil war in the Federated Suns—once again proving that purely military conflicts can negatively affect civilian life.

EXPLORER CORPS

In 2959, as the Third Succession War dragged on, Primus Adrienne Sims of the Blessed Order of ComStar began to have visions of the Inner Sphere's destruction by strange beasts from beyond the Periphery. These visions prompted her to take an extraordinary step whose implications for the survival of the Inner Sphere would not become fully apparent for a generation. Primus Sims established the Explorer Corps, a branch of ComStar dedicated to exploring the void that lies beyond known space. Eightyfive years after its foundation, the Explorer Corps vessel *Outbound Light* stumbled across the Clans, who would shortly afterward become the Inner Sphere's deadliest and most implacable foe. The *Outbound Light*'s appearance in Clan space prompted the Clan invasion of the Inner Sphere, which many believe was the destruction that Primus Sims foresaw.



Beginning in 2961 Explorer Corps JumpShips and DropShips explored vast regions of space beyond the Periphery and made countless charts detailing star systems up to 1,000 light years from Terra, almost twice as distant as the present boundaries of the Inner Sphere. The Explorer Corps has yet to succeed in its primary, unstated mission; to discover the destination of Aleksandr Kerensky's army. Those Clan homeworlds, believed to lie approximately 1,300 light years rimward from Terra, remain hidden. To date, the crew of the *Outbound Light* remain the only people of the Inner Sphere to see a Clan homeworld, and the Clans wiped that knowledge from their memories. Unfortunately, retracing the path of that ship's mission has not turned up any clues to the location of the Clan worlds; the ship was apparently some distance off its scheduled flight. The number of Explorer missions charged with finding them has increased markedly since the Com Guards' temporary victory over the Clans on Tukayyid in 3052.

WAR RENEWED

By the dawn of the 31st century, the Third Succession War had settled into a steady, low-intensity conflict. A few worlds changed hands, but most battles took place on planetary surfaces between BattleMech regiments. Few forces fought space battles during this period. The war simmered on until 3022, when Houses Davion and Steiner signed a secret treaty that would set the stage for the Fourth Succession War and profoundly alter the balance of power in the Inner Sphere. Through the marriage of Hanse Davion, Prince of the Federated Suns, and Melissa Steiner, heir to the Lyran Commonwealth, the two strongest Successor States would become a single, vast, allied realm, sharing technology and military secrets. Seeing the formation of the new Federated Commonwealth as a bid by their enemies to form a new Star League, the remaining three Successor states formed a loose alliance that split the Inner Sphere into two opposing camps. With the economic might of the Lyrans backing his own realm's military power, Hanse Davion attacked the Capellan Confederation in 3028, setting off the Fourth Succession War.

Short but brutal, the Fourth Succession War shattered the Capellan Confederation, seriously damaged the Draconis Combine, and cemented the Steiner-Davion alliance. The Federated Commonwealth's enormous economic and military power dominated the Inner Sphere for the next twenty years, but failed to eliminate its opponents, both internal and external. In the 3030s, the Free Worlds League suffered through an internal power struggle that ended with the ascension of Captain-General Thomas Marik, and Coordinator Takashi Kurita waged a hidden battle with his son Theodore for control of the Draconis Combine. Theodore Kurita quietly engineered the independence of the Free Rasalhague Republic in 3034 in exchange for military aid from ComStar, and the Combine's victory over Hanse Davion in the War of 3039 gave the younger Kurita the upper hand. The truncated Capellan Confederation struggled for its life against the Magistracy of Canopus and the Duchy of Andurien, eventually defeating both.

The calm that followed the Fourth Succession War gave the Successor States a chance to fully investigate the so-called Gray Death memory core, named for the famous Gray Death Legion who discovered it on the planet Helm in 3028. The wealth of data contained in this Star League-era library core led to a technological revival throughout the Inner Sphere. The Federated Commonwealth made particularly rapid progress, and the Draconis Combine did not lag far behind. Military scientists recreated weapons systems and manufacturing materials long thought irretrievably lost, and though the majority of the new technology went to the favored ground arm of the services, numerous aerospace designs received much-needed upgrades. The Gray Death memory core even enabled the Great Houses to re-learn the technologies used to construct WarShips, but the cost of construction and scarcity of suitable shipyards made such a buildup low priority. Not even the rich and powerful Federated Commonwealth could provide all the resources necessary to build the huge war machines. Instead, the Successor States concentrated on redesigning BattleMechs and, to a lesser extent, aerospace fighters. Though none suspected it, this technological renaissance had occurred not a moment too soon.

CLAN INVASION

Throughout the summer and autumn of 3049, ComStar began to hear rumors of an unidentified military force operating in the Periphery, systematically destroying the Bandit Kingdoms that lay at the fringes of known space. These invaders fought using

BattleMechs and weapons far more sophisticated than any possessed by the Inner Sphere. Though ComStar initially feared that the unknown attackers were aliens, careful analysis of their language and use of BattleMech technology proved that they were human. In September of 3049, Primus Myndo Waterly instructed the vessels of the Explorer Corps to make contact with the unknown invaders.

The first attempt at contact, in the uncharted Newark system, resulted in the destruction of the JumpShip *Blake's Vision,* when the invaders apparently misunderstood the ship commander's attempt at peaceful communication. A second attempt met the same fate, but in November a ComStar vessel finally achieved peaceful contact. At this meeting ComStar learned the name and origins of the invading force. Calling themselves the Clans, these militaristic humans were the descendants of the vanished Star League Army, and they had built a society whose ways and values were alien to our own. They intended to invade and occupy the Inner Sphere, to punish the Successor States for their betrayal of the Star League, and to establish a new Star League according to Clan traditions. Because ComStar had also devoted itself to preserving the Star League's ideals over the centuries, the Clans initially regarded our Order with respect. No one suspected that the Clans' true objective was to take over the entire Inner Sphere, including ComStar.

Prepared to treat the Clans as allies against what she saw as the hopelessly corrupt Successor States, Primus Waterly instructed ComStar personnel to aid the invaders. By bargaining to administer Clan-held worlds in return for supplying vital military information, Waterly hoped to further the influence of our Blessed Order at the Clans' and Successor States' expense. The Primus' misguided attempt to gain total power for ComStar by using the Clans would eventually explode in the debacle of Operation Scorpion, a power grab whose utter failure would fracture the Order.

In early 3050, the Clans announced their presence to the rest of the Inner Sphere as Clan units overwhelmed the Periphery garrisons. New 'Mech and fighter designs, infantry dressed in seemingly impregnable battle suits, and WarShips not seen since Kerensky's Exodus pushed aside all resistance in a lightning assault on the rimward Successor States. No force could withstand the blitzkrieg. The Inner Sphere's panicked leaders scrambled for an effective response as the Clans cut a swath through Rasalhague, the Draconis Combine, and the Lyran side of the Federated Commonwealth. In the first orbital bombardment the Inner Sphere had seen since the Second Succession War, Clan WarShips obliterated the city of Edo on the Combine world of Turtle Bay. By October of 3050 the Clans controlled over 100 worlds, and had absorbed virtually all of the Free Rasalhague Republic. The Inner Sphere could name only two victories: one at Twycross, the other on the planet Wolcott.

RADSTADT

Well pleased with the first phase of Operation Revival, the Clans' supreme commander ilKhan Leo Showers called for a meeting of the Clan leaders to be held aboard the Wolf Clan flagship *Dire Wolf* at the recently captured Rasalhague world of Radstadt. The Clan ships arrived in-system on November 1, 3050. Shortly after the *Dire Wolf* arrived at Radstadt, a second group of ships appeared minutes away from the flagship. The AeroWing of Rasalhague's First Drakøns, escorting their prince's JumpShip *Norseman*, had fled toward Radstadt from the Republic's fallen capital world. The sight of the Clan fleet shocked them, but both sides braced for battle. As the *Norseman* prepared to make an escape jump, the fighters of the First Drakøns launched and engaged the *Dire Wolf.* The Flying Drakøns made their first attack run with minimal resistance, catching the Clan pilots unprepared. Recovering swiftly, the Clans launched their own fighters. The tide of battle turned against the Drakøns, as the Clan aerospace fighters forced them back toward the *Norseman.* Suddenly, the *Norseman* disappeared in the shimmer of a successful jump. The sight of the JumpShip escaping with their Prince inspired the Flying Drakøns to a final attack. Kapten Tyra Miraborg aimed her crippled craft straight at the *Dire Wolf* in a suicide dive followed by the rest of her Wing; the explosion killed ilKhan Showers and nearly killed the senior Wolf Khan, Ulric Kerensky. The resulting chaos left the Clans leaderless.

The Clan WarShips escorted the Bloodnamed warriors of all the Clans back to their capital world of Strana Mechty, where the Clans convened a Grand Council to elect a new ilKhan. The journey and the great debate that followed took many months, and the year-long lull in the offensive gave the Inner Sphere badly needed breathing space. Under the aegis of Jaime Wolf, a former Clansman and the Inner Sphere's most famous mercenary commander, the Successor Lords and their heirs spent much of 3051 training together on the world of Outreach. The Draconis Combine and Federated Commonwealth put aside much of their hostility, realizing that the Clans would destroy them all unless they fought together. During this lull, both Great Houses began to develop WarShip designs as part of re-equipping their militaries. They knew that the Clans might choose at any time to discard their self-imposed restriction on the use of WarShips for orbital bombardment, a prohibition uneasily in force since the destruction of Edo. Cooler heads among the Clan leaders had declared such tactics dishonorable because their enemies could not hope to match such overwhelming firepower; but not everyone agreed with this restriction and it might easily be disregarded. Short of using nuclear weapons, WarShips seemed the only viable means of opposing the Clan's powerful naval forces.

The Clans renewed their offensive in the autumn of 3051, under the leadership of ilKhan Ulric Kerensky. Nova Cat and Steel Viper joined the fray as full partners in the invasion, and the Clans drove ever deeper into the Inner Sphere. The Inner Sphere won only a single victory during this terrible time, but one with far-reaching consequences. The battle for the Combine capital Luthien, where Federated Commonwealth mercenary troops aided Combine forces in repelling the Clan invaders, represented the first time that those two ancient enemy states had fought for rather than against each other since the lost days of the glorious Star League. This victory narrowly prevented the Combine's collapse, which would have been the result of Luthien falling to the Clans. The Combine has been a major motivating force behind recent expeditions to find the Clan homeworlds.

TUKAYYID

The Clans' defeat at Luthien prompted Primus Waterly to confer with ilKhan Kerensky, and in January 3052 she traveled to the Clan-held world of Satalice. Waterly hoped to manipulate the Clans into attacking the Lyran capital of Tharkad, but the meeting did not go as she had planned. The ilKhan informed the Primus that the Clans intended to conquer Terra, ancient home of humanity and the Star League. This revelation forced Waterly to admit the folly of her attempts to control the Clan juggernaut. Unexpectedly faced with such powerful foes, ComStar's Precentor Martial Anastasius Focht proposed an unusual course of action. Using his knowledge of Clan culture against them, Focht persuaded the Clans to battle the Com Guards for Terra on the proxy world of Tukayyid. If the Clans won, Terra would be theirs. If ComStar won, the Clans would abide by a fifteen-year truce. IlKhan Kerensky agreed, setting the stage for the climactic battle on which human history would turn.

The Battle of Tukayyid lasted 21 days, and cost the lives of almost 40 percent of the Com Guard. The Order's aerospace forces served with exceptional valor, destroying several Clusters from various Clans. Fighters of the Com Guards' 417th division destroyed the Nova Cat's Alpha Galaxy command ship as it hovered over the landing zone, then helped ground forces shatter the Nova Cats' OmniMechs just north of Joje. Both the Jade Falcons and the Wolves made good use of their OmniFighters, providing air cover and battlefield support for Clan ground forces, but the Com Guards held fast, eventually driving the Clans from the planet. Using air and ground forces as integral parts of the same massive fighting force, the Com Guards won the battle for Tukayyid and gained for the beleaguered Inner Sphere a fifteen-year halt to the Clan advance.

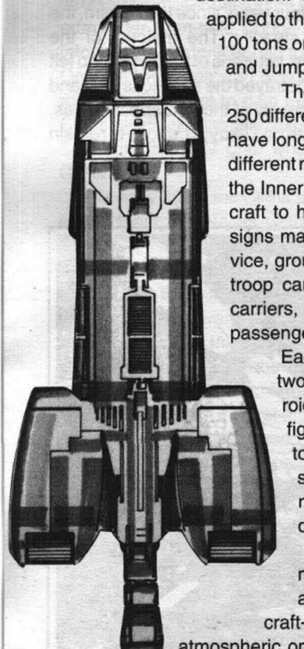
Even as the Com Guards fought and died to hold Tukayyid against the Clans, Primus Waterly set Operation Scorpion in motion. This diabolical plot to bring the entire Inner Sphere under ComStar's thumb backfired badly when ComStar technicians on several HPG stations refused to obey Waterly's call to cut off communications across the Inner Sphere. Rebellions by ComStar personnel on Clan-held worlds, timed by Waterly's orders to occur while the Clans remained bogged down on Tukayyid, succeeded only in angering ComStar's erstwhile allies. Waterly's power grab was doomed from its inception, and a furious Precentor Martial forced Waterly out of power as soon as he learned of her treachery. In her place he appointed Sharilar Mori as Primus, and together they embarked on an ambitious reform program that split ComStar in two. Many ComStar members departed the order, led by the reactionary Precentor Demona Aziz. This schismatic faction, calling itself the Word of Blake, sought refuge in the Free Worlds League under the protection of Thomas Marik. The former ComStar Precentor gave them a landhold on the world of Gibson, where they gathered to practice their outmoded mystical traditions and plot the downfall of the new ComStar. A few Com Guard units chose to join *these misguided rebels, and in the four years since the schism, the* number of defectors has grown steadily. The majority of the defecting troops were MechWarriors, veterans of Tukayyid who felt that the secularization of ComStar betrayed the sacrifices they and their colleagues had made. The majority of the aerospace forces, relatively unscathed by the bloodbath on Tukayyid, chose to remain with the reformed Order.

NAVAL TECHNOLOGY

Only with the discovery of the Gray Death memory core has Inner Sphere technology begun to reapproach the technology level of the Star League era. The Clan invasion prompted the Houses to step up their research and development efforts to create war machines capable of meeting and possibly defeating this threat. This section describes the current status of efforts to improve space capabilities. We only briefly mention the current standard of Clan technology, as we remain almost completely ignorant of their methods and manufacturing capabilities.

DROPSHIPS

The term DropShip was first used in the 22nd century to describe the huge, cargo-carrying shuttles transported by the relatively primitive JumpShips of that era. As JumpShip and DropShip technology advanced, the nature of both vehicles changed. By the time the term DropShip became official in the late 25th century, it designated interplanetary, non-FTL craft carried on the hull of a JumpShip, rather than inside its cargo bays. These DropShips, considerably more versatile and sophisticated vessels than the huge cargo shuttles they replaced, would "drop" free of the JumpShip's docking collar upon arrival at their destination. The term shuttle remained in use, applied to the small craft with cargo capacities of 100 tons or less carried inside both DropShips and JumpShips.



The Terran registry records more than 250 different DropShip designs, many of which have long been obsolete. Approximately 100 different models remain in service throughout the Inner Sphere, ranging from small attack craft to huge cargo transports. Twenty designs make up the majority of ships in service, grouped into the following six classes: troop carriers, BattleMech carriers, fighter carriers, assault ships, cargo carriers, and passenger liners.

Each DropShip design falls into one of two categories: aerodynes and spheroids. Aerodynes resemble AeroSpace fighters, using wings and lift surfaces to operate in atmosphere. Spheroids, so named for their distinctively rounded hulls, rely on their fusion drives to provide lift.

Generally smaller and more maneuverable than spheroids, the aerodyne DropShip's winged, aircraft-like design makes it ideally suited to atmospheric operations. However, the craft's dependence on its aerodynamic hull shape to provide lift limits the size of aerodynes, and drastically increases the cost of building these sleek, graceful craft. Another disadvantage is that most aerodynes must land on a long, flat stretch of runway as conventional aircraft do. This dependence on prepared landing surfaces and support makes aerodyne DropShips less versatile than spheroids. To enable aerodyne DropShips to operate both in atmosphere and in space, most aerodynes have two sets of exhaust nozzles, one mounted on the craft's bottom and the other at its rear. Though taking up more space than a simple drive, this arrangement alleviates the problem of internal orientation. Depending on whether or not the craft is in atmosphere and affected by planetary gravity, it uses different exhaust nozzles for thrust, allowing the craft's nose to remain "forward" and its rear to remain "aft" at all times. Aerodynes use their bottom thrusters and transit drives for transit in space, switching to maneuver drives and aft thrusters for atmospheric operations.

Having a simpler hull design than aerodynes, spheroid DropShips are much easier and cheaper to construct. The simplicity and sturdiness of spheroid hull design also allows the construction of much larger spheroids. The largest spheroid currently in production, the *Behemoth*, masses 100,000 tons, whereas the largest aerodyne only masses 10,000 tons. Spheroids have only one drive system used for both space travel and atmospheric maneuvering. The positioning of the drive at the ship's bottom, as well as the shape of the hull, allows spheroids to take off, hover, and land vertically. This capability gives the spheroid DropShip enormous versatility, but also makes it vulnerable. Because the drive thrust provides direct lift in atmosphere, steering is accomplished through a complex system of control thrusters mounted on the ship's hull. Any damage to these thrusters can severely impair the craft's handling. However, its ability to land in almost any type of terrain makes the spheroid DropShip very popular with the military. The largest 'Mech transport, the *Overlord* Class DropShip, can deposit a battalion of 'Mechs directly onto a battlefield under almost any conditions.

DROPSHIP SYSTEMS

Despite differences in outward design, all DropShips have a number of systems in common. The following pages identify and describe in detail the type and functions of these common systems.

Engineering Systems

Engineering systems critical to all DropShips are usually located in the engineering core of spheroid DropShips and on the bottom deck of aerodynes. Two systems comprise the heart of every ship's engineering section: an engine core that propels the ship's drives and a fusion power plant that supplies energy to the ship's systems. Like the larger fusion core in the drive system, the power plant has both physical and magnetic shields that contain its power and protect the crew. A closed system, the fusion power plant reprocesses its own by-products to produce power and requires little additional fuel. If necessary, however, the plant can draw upon the liquid standard diatomic hydrogen stored in large tanks located in the engineering section. This ability to adapt its use of fuel to the circumstances at hand keeps the engine and power systems at peak efficiency. In addition to the engine core and power plant, the engineering system has numerous cooling pipes, fusion cables, fuel lines, and plasma ducts.

The invention of the fusion engine allowed spacegoing vessels to advance from the small craft of the 20th century to the thousand-ton-plus vessels of the 21st and later centuries. No longer restricted by the need to use huge tanks full of chemical propellants, fusion-powered craft could accelerate steadily for several days, drastically reducing the time required to travel between worlds. The fusion engine works by expelling plasma—the by-product of the fusion reaction—through shielded exhaust nozzles on the rear or bottom of the craft. On the best-designed DropShips, numerous small exhaust nozzles also dot the crafts' hull. The pilot uses these to alter his vessel's heading and altitude, though many craft use hardier but inefficient chemical thrusters in place of the fragile and expensive fusion jets. A magnetic containment system channels the main plasma exhaust to the drives and out the exhaust nozzles, allowing the pilot to steer the vessel and protecting the crew from harmful radiation.

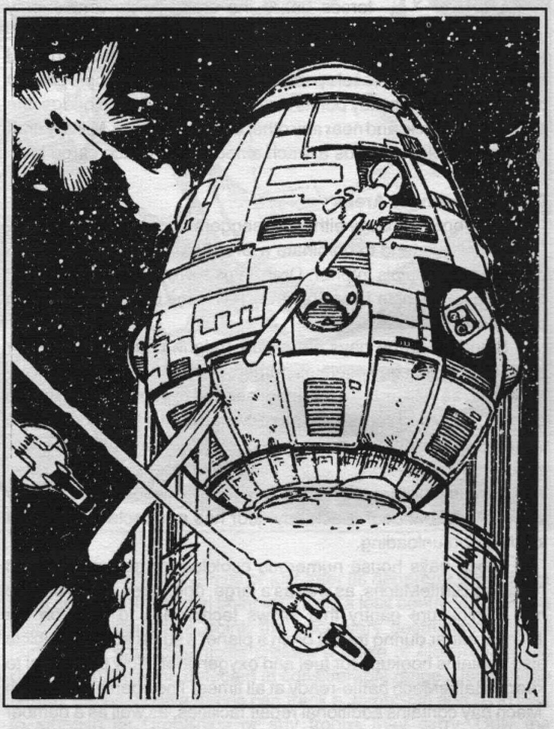
Unlike the closed power plant system, the open fusion system of the ship's drive requires a constant supply of fuel. The engine core draws liquid diatomic hydrogen (H_2) fuel from large storage tanks into its reaction chamber, and the drive expels the reaction by-products to produce thrust. All DropShips use at least one of two fuel flow mechanisms to feed the fusion drive.

The most common system, found on all DropShips, is a heat-expansion system that requires little maintenance. Small pumps send hydrogen into a heated chamber, where the high temperature causes it to expand. The resulting increase in pressure forces the fuel into the engine core (or the power plant, if required). This system provides a constant fuel supply, ideal for interplanetary flight but not suited to the rapid changes in fuel demand that occur in combat.

The second fuel system, found most often on military vessels, uses a system of high-speed pumps to supply the drive system with the constant pressure required to sustain the fusion reaction regardless of the fuel demand. This system allows rapid changes in thrust, giving military craft the maneuverability required in combat. However, keeping the engine system at maximum pressure wastes a considerable amount of fuel, and so DropShip pilots only use it when rapid maneuvering is necessary. DropShips may revert to the heat-expansion system for interplanetary transit; aerospace fighters, equipped solely with the fast-pump system, do not have the fuel reserves to accelerate for prolonged periods.

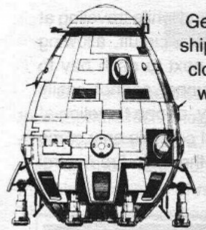
Weapon Systems

Most DropShips, both combat and civilian, carry weapons bays. Each bay contains radar and laser targeting systems, a cooling system, and ammunition feeds for any combination of autocannons, missiles, and particle projection cannons. The ship's fire-control computer determines the target for each bay, acting under instructions from the vessel's pilot. This system, linked to the ship's main computer and radar array, enables the DropShip to engage craft hundreds of kilometers distant, and while traveling at high speed. Each bay also has a local control circuit, allowing individuals in the gunnery stations situated next to each bay to control the weapons. Because a human gunner cannot easily target a unit more than a few kilometers away, or one traveling at thousands of kilometers per hour, most local controls only come into use if some emergency has shut down the main fire control computer.



Control Systems

Each DropShip has a control room, known as a bridge. The bridge varies in size from ship to ship, from the small, functional cockpits of the *Leopard* and *Monarch* Class DropShips, to the spacious decks of the *Overlord* and *Mammoth* Class vessels. Each bridge contains stations for a pilot, a navigator, a communications officer, and a computer/weapons officer. Larger craft may have more than one station for each position, or additional posts for specialized crew. For example, some vessels have separate weapons and computer officers, and others have bridge stations for a cargo officer, a docking officer (controlling the KFFC boom and docking collar), a security officer, and a commander. Though the main computer performs many of the major tasks of running the ship, crew members man the appropriate stations to supervise the computer's performance and to provide manual backup in case of systems failure. By using backup computers, each station can manually operate most of the ship's systems if necessary.



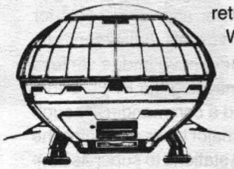
Generally physically isolated from the rest of the ship, the bridge can also isolate other areas by closing the hatches designed to prevent ship-wide depressurization in the event of a hull breach. The bridge also controls the life support systems for each area of the vessel, and bridge officers may use both of these control mechanisms to great advantage if enemy forces board the craft. To prevent enemy forces from taking advantage of these systems in the event of a successful boarding, combat DropShips and even some civilian vessels position marines or other appropriately trained personnel at key points throughout the ship: the bridge, the engineering deck, and near any other control systems. Military craft also usually place guards at each airlock and in each cargo bay.

Cargo/Passenger Areas

All DropShips carry either passengers or cargo of some kind. Cargo facilities tend to dominate a DropShip, occupying up to 75 percent of the ship's interior. DropShips have numerous types of cargo bays; a single DropShip may have any combination of the bays listed below.

Standard cargo bays store bulk freight, usually supplies or equipment. Each bay contains numerous anchor points for securing cargo, as well as the equipment needed to maneuver the cargo both in gravity and zero-G. On most civilian craft a single door in the cargo bay provides access to the outside, while small passageways lead from the bay into the ship. The larger civilian ships, as well as many military craft, have an airlock between the cargo bay and the external door. Each bay door has a retractable ramp for loading and unloading.

'Mech bays house numerous cubicles for transporting and repairing BattleMechs, as well as a large, open area. Each cubicle has a miniature gantry that allows technicians to work on the 'Mechs, either during transit or on a planet's surface. Each cubicle also contains hookups for fuel and oxygen that allow personnel to keep a BattleMech battle-ready at all times. The open area in each 'Mech bay contains additional repair facilities, as well as a number of anchor points to which a 'Mech may attach for repair. If the ship is fully loaded, additional BattleMechs may ride out the journey attached to an anchor point instead of in a cubicle. In addition, most 'Mech bays have an airlock sufficiently massive to allow the ship to drop 'Mechs into combat, either in atmosphere or space. Each bay also has drop cocoons and storage facilities for spare parts. Like cargo bays, each 'Mech bay has a retractable ramp for loading and unloading. While the ship is on a planet, BattleMechs enter and exit the vessel via these heavily reinforced ramps.



Unlike the comparatively rare 'Mech bays, most DropShips have small craft bays. Most DropShips carry one or two shuttlecraft, and store each in a storage cubicle during transit. On these DropShips, each cubicle may have its own door and operating mechanisms, and the shuttlecraft pilots tend to rely on precision flying for launching and recovery. Craft designed to carry several fighters or small craft often group the storage/repair cubicles around one or more launch/recovery bays. On these vessels, each storage/repair cubicle has facilities similar to a 'Mech bay.

These large craft bays each have appropriate launch and recovery facilities, and their increased size makes landing much easier for a shuttle pilot. The bays also have catch-nets, huge mesh barriers designed to "catch" badly damaged or out-of-control fighters and prevent them from impacting on the rear wall of the bay. The bulkheads around each bay are as thick as the DropShip's hull, providing added protection in case of accident. In an additional protective measure, access to the rest of the vessel from the craft bay is restricted by a series of airlocks. The one drawback of most small craft bays is the inability to launch all of a DropShip's small craft from them at one time. Though unimportant on civilian vessels, this launch restriction can prove critical on military carriers.

Most fighter bays cannot be used while a DropShip is in atmosphere or on the ground. The majority of fighter bays are designed so that fighters "drop away" from a ship moving at a constant speed and direction; launching craft under any other circumstances is very difficult, and recovery impossible. A crane must load and unload each small craft from a DropShip on a planet's surface, and each bay has one crane to perform such operations. A DropShip flying in atmosphere may launch fighters at great risk but will not be able to recover them.

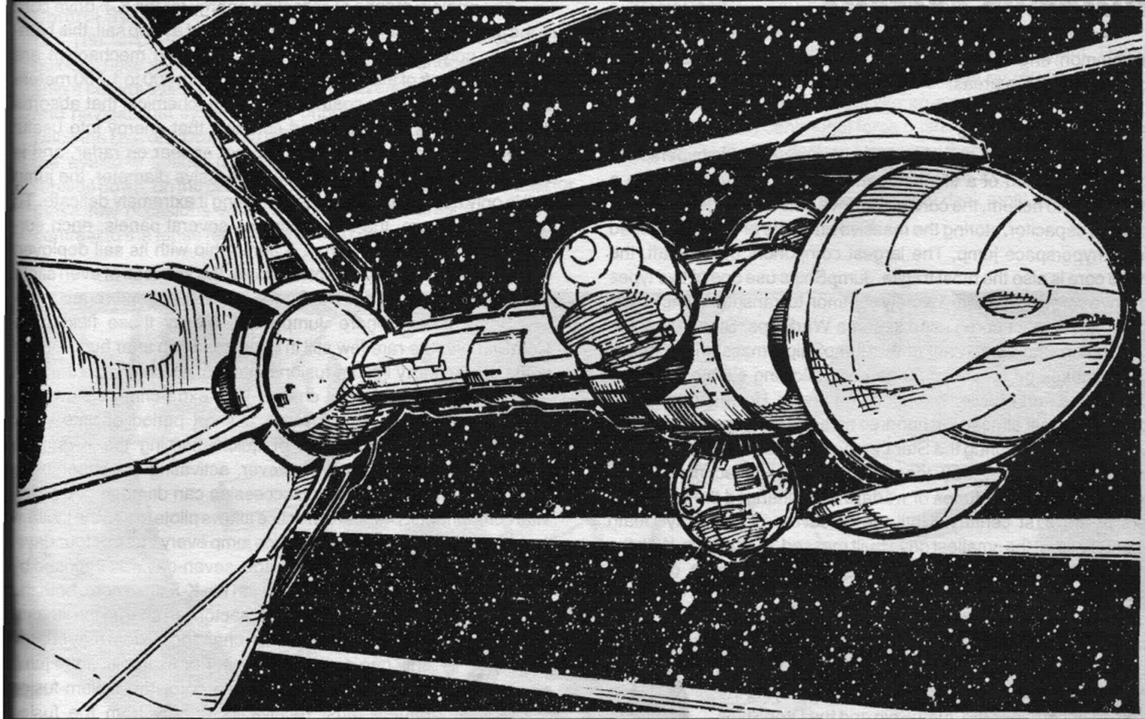
Many pilots call the launch/recovery bays "flight decks," a term that goes back to the first seaborne carriers used in the 20th century. Technicians and engineers assigned to each bay often refer to themselves as the deck crew, and the officer in charge has the formal title of deck officer.

JUMPSHIPS

JumpShips are the backbone of interstellar travel. These slender, needle-like craft were first developed in the 22nd century following the rediscovery of the works of Kearny and Fuchida, the two visionary scientists whose work opened the door to faster-than-light space travel. The vessel's long, narrow Kearny-Fuchida drive system stretches from one end of the JumpShip to the other; a small cockpit at the ship's fore houses the command section, and the station-keeping drive rests in the aft section. The Kearny-Fuchida drive gives the craft its ability to "jump" between two points in space up to a distance of thirty light-years apart, hence the name JumpShip.

Experiments carried out in the 21st century by Stanford physics researchers Thomas Kearny and Takayoshi Fuchida showed that subatomic particles could, when exposed to a hyperspace energy field, jump between two points in space. The results suggested that by amplifying this effect, humans could achieve instantaneous interstellar transport by moving large objects—namely, ships—through these jump points. However, the physicists' theories conflicted with the known laws of Einsteinian

NAVAL TECHNOLOGY



physics, and mainstream science disregarded them for many years. At the beginning of the 22nd century, two independent research teams vindicated the work of Kearny and Fuchida, and paved the way for man's travels to the stars.

In the first decade of the 22nd century, the Terran Alliance government funded the development of what became known as the Kearny-Fuchida hyperspace drive, the basic principals of which have remained unchanged since then. A field initiator in the aft end of the drive housing generates the hyperspace field and focuses it through the drive's titanium/germanium core, whose superconducting capacity boosts the field's strength and size. The resulting amplified field encompasses the JumpShip and any attached DropShips. Once fully expanded, the field pushes the craft through the jump point, a "hole" in space. The actual time spent in hyperspace depends on the distance traveled, but never lasts longer than 15 seconds. The craft then emerges from the other end of the hyperspace rift through the second jump point, arriving at its destination. A malfunction of the K-F drive usually results in the craft simply arriving at a point other than that intended, but on rare occasions a JumpShip remains trapped in hyperspace. The fate of such unlucky vessels remains unknown.

Opening holes in space takes vast amounts of energy, creating radiation signatures for both the traveling vessel and the space near it. Predominantly infrared, this radiation can be detected just prior to a JumpShip's arrival or just after its departure. Opening a rift in space at the arrival point is usually a less controlled process than at the departure point; the necessary destruction of vast numbers of atomic particles creates a pulse of electromagnetic radiation that can be detected at considerable range. Using these energy traces, hostile forces can track a JumpShip and lie in wait to ambush its DropShips or any troops they carry. Only the unspoken prohibition against destroying the almost irreplaceable JumpShips, in force since the end of the brutal Second Succession War, has so far saved JumpShips from becoming military targets.

JumpShips fall into two categories. The first and most numerous is the transport JumpShip, such as the *Merchant* and *Invader* Class vessels. Both civilian and military organizations use transport JumpShips to convey DropShips between destinations in the stars. The second category, combat JumpShips, also known as WarShips, were virtually wiped out in the first two Succession Wars. Only since the recent technological renaissance sparked by the Gray Death memory core has humankind recovered enough knowledge to build WarShips, and the pressures of the Clan War have encouraged more than a few Successor States to speed up WarShip development and production. Because WarShips remain untested in battle, this report considers them in a separate section from the standard transport JumpShip.

JUMPSHIP SYSTEMS

As with DropShips, all JumpShips have the following features in common: engineering systems, weapons, control systems, grav decks, and cargo areas.

Engineering Systems

The heart of the JumpShip is the Kearny-Fuchida hyperspace drive. Composed of a titanium/germanium alloy suspended in a tube of liquid helium, the core of the drive acts as a huge superconductive capacitor, storing the massive amounts of energy required for a hyperspace jump. The largest component of the craft, the drive core is also the most fragile. JumpShips use one of two types of drive core: the standard variety common to transport JumpShips, and the compact cores used in some WarShips. Standard cores take up around 95 percent of the JumpShip's mass; the compact variety takes up less than 50 percent, allowing such a vessel to pack more and heavier weapons and armor. However, the compact cores cost almost one hundred times as much as the standard variety to build. During the Star League, shipyards could construct cores as light as 2,500 tons, but the loss of technology and knowledge over centuries of warfare shortchanged the shipbuilders of the 31st century. Until the discovery of the Gray Death memory core, the smallest drive built massed 35,000 tons. With the help of the information provided by the Gray Death core, scientists are reapproaching the smaller drive size.

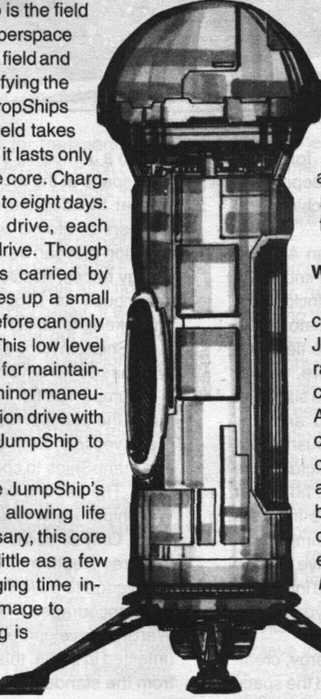
Situated at the aft end of the JumpShip is the field initiator, the second vital component of the hyperspace drive. This device generates the hyperspace field and focuses it through the main drive core, amplifying the field to encompass the JumpShip and the DropShips it carries. Generating and expanding this field takes vast amounts of energy; each jump, though it lasts only a few seconds, requires a fully charged drive core. Charging the core usually takes anywhere from six to eight days.

In addition to the Kearny-Fuchida drive, each JumpShip also carries a massive fusion drive. Though considerably larger than similar systems carried by DropShips, this station-keeping drive makes up a small proportion of the JumpShip's mass and therefore can only exert a few tenths of a G of acceleration. This low level makes the station-keeping drive best suited for maintaining position at a jump point, or performing minor maneuvers near it. A huge fuel tank supplies the fusion drive with diatomic hydrogen (H_2) and allows the JumpShip to refuel docked DropShips.

A huge fusion power plant supplies the JumpShip's day-to-day electrical power requirements, allowing life support and computers to function. If necessary, this core can also quick-charge the K-F drive in as little as a few hours. However, because a shorter charging time increases the likelihood of jump failure or damage to the delicate K-F drive, such quick-charging is reserved for emergencies.

The primary means of collecting energy for the K-F drive core is the JumpShip's solar sail array. Also called a jump sail, this high-strength polymer sheet and its delicate furling mechanism are located at the aft of the vessel. Measuring from 800 to 1,500 meters in diameter, the sail is coated with a photochemical that absorbs almost all forms of energy and converts that energy into useful power. A sail collecting energy with not appear on radar, and is difficult to detect visually. Despite its massive diameter, the jump sail is only a few millimeters thick, making it extremely delicate. To minimize damage, the sail comprises several panels, each surrounded with a thicker frame. A JumpShip with its sail deployed cannot maneuver; if it attempts to do so, the stresses of even slight acceleration will damage the fragile polymer beyond repair.

Some Inner Sphere JumpShips, mostly those fielded by ComStar and the rare few still in good condition after hundreds of years of war, carry lithium-fusion batteries, which enable the ship to store an additional drive charge. This extra charge allows the vessel to make two jumps within a short period of time while avoiding the enormous risks of quick-charging the K-F drive through the fusion reactor. However, activating the hyperspace drive too many times in rapid succession can damage or destroy vital components. Standard practice allows pilots to use the lithium-fusion charge to make a hyperspace jump every three or four days, an improvement on the average, seven-day wait imposed by jump sail recharging. As with the K-F drive core, both the jump sail and the fusion reactor can charge the lithium-fusion battery, but each charging system may charge only one device at a time. For example, if the jump sail is charging the drive core, the lithium-fusion battery must receive its energy from the fusion reactor. According to our observations, the lithium-fusion battery is standard equipment on Clan JumpShips and WarShips. Rumor says that House Kurita is currently retrofitting every available ship with a lithium-fusion battery.

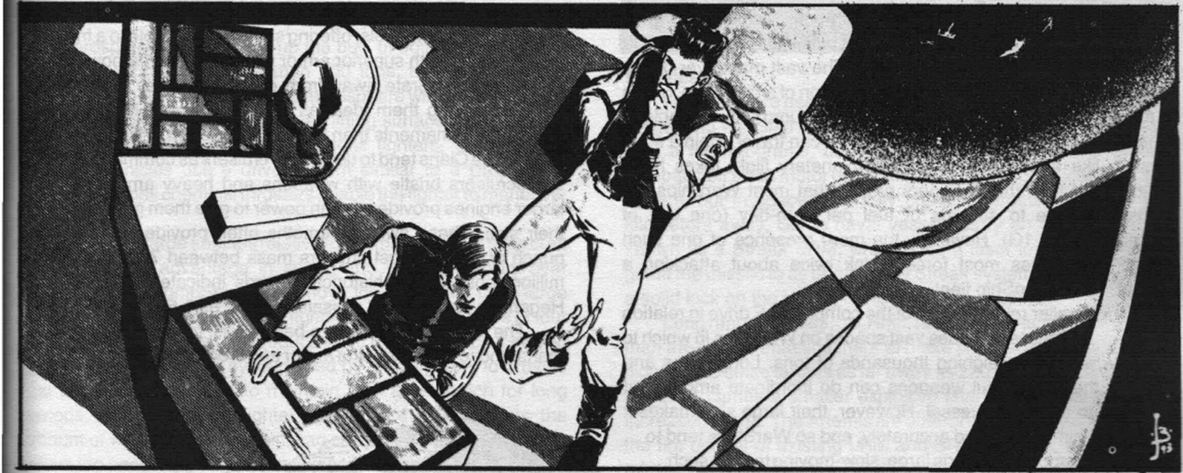


Weapons Systems

Save for a few large lasers or particle projection cannons used to destroy meteors, most transport JumpShips have no weapons. The anti-meteor guns are rarely powerful enough to damage an armored spacecraft, though they can kill a pressure-suited human. Among Inner Sphere JumpShips, only the *Invader* Class carries lasers and PPCs large enough to function as offensive weapons. Because the *Invader* is often used as a military transport, its guns are powerful enough to repel boarding attacks, but even an *Invader*'s weapons array cannot destroy an attacking ship. The Clans have equipped a number of reconnaissance craft, such as the *Hunter* Class ships, with a moderate array of weapons. Though ostensibly meant to dissuade attacks by pirates or other foes, these weapons enable Clan reconnaissance vessels to fill an offensive role.

Control Systems

The ship's bridge and crew's quarters are located in the bulbous nose section of most JumpShips. The bridge contains the ship's control systems, including maneuvering, hyperspace flight, and navigational systems. The bridge of a JumpShip is roughly twice the size of a DropShip bridge, with stations scattered over all the available space. It is not unusual for crew members to sit "upside down" on the ceiling, though alternative stations do exist for those few occasions when the craft is accelerating. In marked contrast to the tense feel of a DropShip bridge, the atmosphere on a JumpShip bridge tends to be relaxed and easygoing. A DropShip crew, whether military or civilian, must stay constantly alert for trouble from hostile forces or operating problems due to the complexity of flying the vessel. The crews of transport JumpShips face few such threats. The worst most JumpShip crewmen may experience is a warning shot across the bow or into the jump sail, and JumpShip flight requires little complex maneuvering.



JumpShip bridges have many of the stations found on DropShips in addition to a navigator's station. Should the navigation computer fail, the navigation officer is qualified and knowledgeable enough to manually program the K-F drive. In a new addition to a very select few Inner Sphere JumpShips, a holotank dominates the center of the bridge. Replacing the small table-units of previous craft, bridge officers use the new holotanks to plot star charts in three dimensions and to calculate routes. Civilian Inner Sphere JumpShips rarely carry this expensive system, but *all* Clan JumpShips use this technology. Our research indicates that Clan commanders also use the holotanks to follow the course of battles, both in orbit and on the ground.

Grav Deck

Most large JumpShips (100,000+ tons) carry a grav deck that provides the crew with an artificial gravity environment. This ring-shaped section produces artificial gravity by rotating around the axis of the ship and so acts like an enormous centrifuge. As the deck spins, the centrifugal force pushes objects outward from the deck's center. The deck wall becomes the "floor," providing a sense of normal planetary gravity. Too small to accommodate living quarters for the entire crew, the grav deck most often serves as a lounge for off-duty personnel.

Cargo Section

Though JumpShips function most often as DropShip transports, they can carry cargo in the JumpShip's own cargo bays. The average JumpShip's cargo section masses less than 10,000 tons and is limited not by space, but by function. The JumpShip serves primarily to transport cargo-laden DropShips; any additional cargo the JumpShip carries must be transferred to a DropShip in order to reach its destination. Because most DropShips already have a full load, most JumpShips use their cargo capacity to carry stores for the JumpShip. For exploratory missions, using this extra storage capacity for supplies may prove vital to the mission's success.

Most JumpShips have at least one docking collar that holds DropShips secure as the JumpShip travels through hyperspace. On most JumpShips, the docking collars are located on hardpoints (also called docking hardpoints) along the exterior of the Kearny-Fuchida drive. The center of the collar assembly usually supports a number of transfer conduits that allow the cargo, passengers, and fuel to move between the JumpShip and DropShip. A small docking control booth located near each collar contains control valves and switches for these connections.

WARSHIPS

Though the basic design of a WarShip matches that of a JumpShip, the larger WarShip has an additional maneuver drive, stronger armor, and powerful weapons arrays. In order to accommodate the additional hardware, these combat JumpShips use a compact but more expensive version of the K-F drive. Because the K-F drive in a WarShip must move a greater volume, it and most other components are larger than their equivalents on board a "transport" JumpShip.

Like its transport counterpart, the WarShip is built around a K-F drive. WarShip design surrounds the vulnerable drive core with various decks for personnel and equipment, shielding the whole with massive layers of armor. This extra bulk enables the vessel to resist enormous amounts of damage. The vast maneuver drives allow the WarShip to act like a slower version of a DropShip, giving it maneuverability superior to the standard JumpShip. Capable of one or two Gs of acceleration, a WarShip can travel within a solar system like a DropShip. Such interplanetary flight takes huge amounts of fuel; the designers project that most WarShips will consume close to 40 tons of fuel per burn-day (one day of acceleration at 1G). However, the mere presence of one such juggernaut makes most forces think twice about attacking a JumpShip or DropShip fleet.

The smaller relative mass of the compact K-F drive in relation to the overall vessel provides vast spaces on WarShips in which to fit large weapons weighing thousands of tons. Long-range and deadly, these powerful weapons can do inordinate amounts of damage to an enemy vessel. However, their large size makes it difficult to aim quickly and accurately, and so WarShips tend to use their weapons to engage large, slow-moving targets such as DropShips or other WarShips. [For more information on naval weapons systems, see **Weapon Systems** p. 26 of this section.]

The WarShip's ability to accelerate enables it to produce ship-wide artificial gravity, removing the need for a grav deck. WarShip decks are arranged so that the nose of the craft is up, and the engine section is down. Many larger WarShips continue to carry two or three grav decks for use while in orbit or waiting at a jump point, when the vessel is not accelerating and therefore has no gravity.

Like DropShips, WarShips fall into categories determined by their role. The classifications used in this report date back more than a thousand years, to the time when navies operated on water—the terms have survived and been modified where necessary to suit the realities of warfare in space.

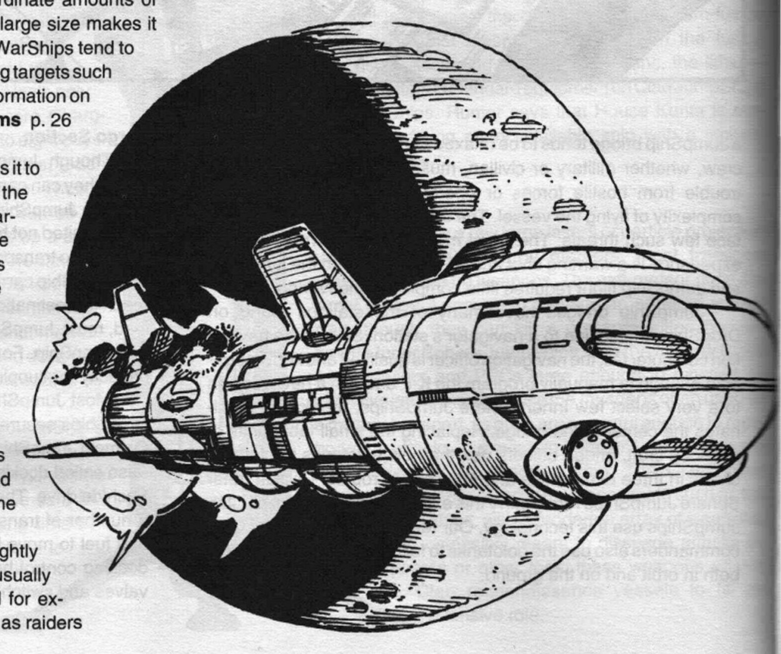
Corvettes are the smallest WarShips. Lightly armored and relatively swift, these small craft usually mass less than half a million tons. Designed for extended operations, they most often see action as raiders or convoy escorts.

The next largest ship class, destroyers, occupy a similar niche but are more heavily armed. In addition to raiding and escort duty, destroyers often guard orbital installations. Most destroyers mass between 500,000 and 700,000 tons.

Frigates rarely mass under 700,000 tons, and serve as both picket vessels and escorts. Usually equipped with top-notch sensors, frigates often stay on the outskirts of a fleet to act as sentries, though they also provide additional defense in the fleet's core. Unlike the smaller ship classes, frigates can also operate as transports, allowing DropShips to dock at their hardpoints.

Cruisers constitute a diverse class of ships, and many navies subdivide them into the additional categories of light cruisers, heavy cruisers, and battlecruisers. Cruisers serve as escorts, raiders, or picket vessels, offering speed comparable to a frigate or destroyer, but with superior armor protection and firepower. Most cruisers can operate away from support facilities for extended periods, making them ideal as raiding vessels. Heavy cruisers carry more armaments than light cruisers, often at the expense of speed. The Clans tend to use heavy cruisers as command vessels. Battlecruisers bristle with weapons and heavy armor, but their larger engines provide enough power to give them great speed for their size. These swift behemoths often provide the knock-out punch of a fleet. Most cruisers mass between 700,000 and 1.2 million tons, though historical records indicate that the Terran Hegemony constructed vessels as large as 1.5 million tons.

The largest WarShips are battleships, multi-million-ton leviathans whose overwhelming armor and firepower have given rise to



much of the mystique surrounding combat JumpShips. A vessel of this class usually serves as the flagship of a fleet, leading assaults against stubborn opposition and making a breach in enemy defenses for smaller craft to exploit. Contrary to common wisdom, a battleship's size does not imply a lack of speed. Most can keep pace with frigates, and can outrun heavy cruisers. The two-million-ton *McKenna* Class WarShip, used by the SLDF in the era of the Star League, remains the largest spacecraft ever built. Observers have seen a few battleships among Clan fleets, but fortunately, none have matched the *McKenna* Class vessels.

FIGHTERS

Aerospace fighters make up the bulk of both Clan and Inner Sphere fleets. Massing less than 100 tons, these small, swift-moving craft operate in space and atmosphere with equal ease. All have streamlined fuselage, and use lifting surfaces to operate in atmosphere. Unlike strictly atmospheric fighters, these fusion-powered vehicles use a drive system similar to a DropShip's. Clusters of small chemical thrusters enable the fighter to maneuver in a vacuum.

A fighter's large engines relative to its small size give such craft a considerable advantage in speed and maneuverability over DropShips and JumpShips; they move too quickly for most large ships' guns to target them. Many fighters can generate three or four Gs of thrust, and some can produce up to a mind-numbing eleven Gs. However, the pump system used by most fighters to provide fuel does not allow them to maintain high acceleration for long periods. The aerospace fighter's small size also restricts the amount of weapons and armor it can carry; all aerospace designs reflect the necessary trade-off between firepower, protection, and speed.

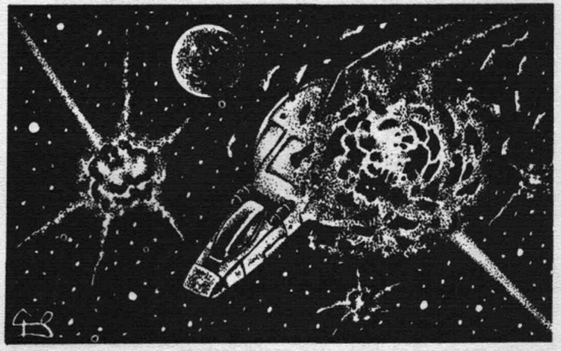
Despite their many limitations, fighters are relatively inexpensive to build and maintain. When used in massed fleets, they pose a devastating threat to the largest and most well-protected spacefaring vessel.

WEAPON SYSTEMS

The weapon systems found aboard all naval vessels, from fighters to WarShips, fall into a few standard categories. The following paragraphs provide a brief guide to the different types and functions of shipboard weapons.

BALLISTIC WEAPONS

Ballistic weapons damage a target by striking it with a solid projectile. The projectile's velocity and mass does much of the damage, and some projectiles also carry an explosive charge. Because they need a ready supply of ammunition nearby, ballistic weapons weigh more than energy weapons capable of similar damage, but they are less likely to burn out or explode from overheating. Ballistic weapons include missiles, autocannons, and Gauss weapons. All are available in standard and naval versions.



Missiles

Naval warfare uses three classes of missile: short range, long range, and WarShip missiles. Short range missiles (SRMs) weigh only a few kilograms, but have powerful warheads. In ground combat their small motor unit limits them to a range of less than 300 meters, but in space they may coast to targets as far as 100 kilometers away. Some naval vessels carry an SRM derivative known as a Streak SRM, which uses a laser lock-on system to guide the missile to its target. If the Streak system cannot maintain a solid lock on the target, it will not fire its missiles.

Long range missiles, or LRMs, have a much larger booster unit than the SRMs, enabling them to make small adjustments to their flight and to strike targets as far away as 220 kilometers. However, the LRM carries a smaller explosive charge in exchange for its increased range. The Artemis fire control system may supplement the fire control of existing LRM and SRM systems, enabling the missiles to make mid-course corrections and thereby increasing the number that will hit the target. The Artemis fire control system is not compatible with SRM Streak systems, but Streak systems are more efficient than Artemis fire control. That fact notwithstanding, the additional cost and weight of the Streak system have so far prevented Inner Sphere naval forces from embracing it wholeheartedly.

WarShips carry huge missiles capable of inflicting massive destruction. Often using more sophisticated fire control computers than many manned vehicles possess, these 30-ton or larger projectiles can guide themselves toward a designated target up to 450 kilometers away. However, such a missile's massive weight limits its fuel supply; WarShip missiles carry enough fuel to burn for only 45 seconds, and use up much of that fuel in evasive maneuvers and course corrections. Once the fuel is used up, the missile coasts to its target.

6

Autocannons

The direct descendants of the gunpowder weapons first used on ancient Terra, autocannons use a chemical charge to propel an explosive-tipped, unguided projectile at the target. There are four types of autocannon, three of which are standard weapons used in war machines from fighters to BattleMechs. The fourth is solely a naval weapon.

The standard autocannon is a rapid-firing, auto-loading weapon, with a caliber ranging from 30 to 200 millimeters. Modern-day military experts grade these weapons not by caliber, but by damage potential. For example, the damage potential of a rapid-fire, 50mm cannon may place it in a higher damage category, whereas a 200mm cannon with a slow rate of fire might be classified as a medium damage weapon.

The so-called "ultra" group autocannon fire at faster than normal rates, increasing potential damage. However, this extremely rapid rate of fire makes the ammunition feed more likely to jam and reduces accuracy. The ultra-rapid fire mode means that in many cases, fewer than half the shells fired actually hit the target. To compensate for this problem, many ultra cannons are designed to fire at the standard rate as well, allowing the operator to switch to ultra mode when presented easier targets.

The LB-X series of autocannon are similar to standard cannon, but may also fire a "shotgun" shell. The larger, lighter shell increases the likelihood of hitting the target, but does less damage than the heavier standard projectile.

The fourth class of autocannon, found only on WarShips and space stations, weighs between two and five thousand tons. Though the chemical propellants they use limit their range to that of conventional autocannons, naval autocannon (NAC) can do tremendous damage by virtue of their colossal size. One or two shells alone may destroy a DropShip. However, like most naval weapons, their size also prevents them from accurately tracking small, swift targets.

Gauss Weapons

Similar in appearance to autocannon, Gauss weapons attempt to overcome the deficiencies of chemical propellants. The barrel of the Gauss gun is a linear accelerator that propels a nickel-ferrous projectile at great speed, damaging the target with kinetic energy. These weapons weigh more than autocannons, but run cooler and have a longer range. Both standard and naval versions exist at various calibers.

ENERGY WEAPONS

Lighter than ballistic weapons, energy weapons have few moving parts. Energy weapons convert electrical energy into either light or charged particles, producing considerable heat as a by-product. Though weighing less than ballistic weapons, the need for additional heat sinks to keep them cool under sustained fire increases their bulk to a point that negates the advantage of their lower mass.

Lasers

The laser, an acronym for Light Amplification through Stimulated Emission of Radiation, is a weapons system that concentrates an amplified beam of light onto the target. The beam causes a sudden rise in temperature, melting armor and/or components. Lasers also vaporize certain materials, causing small pockets of gas to form and explode. As with missiles, autocannon, and Gauss weapons, laser weapons exist in both standard and WarShip variations.

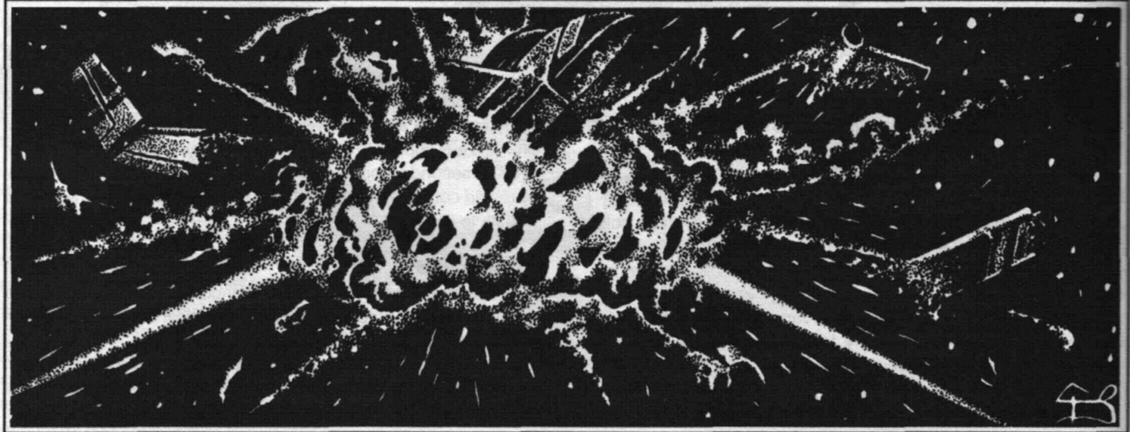
Standard lasers operate exactly as described above, though some use higher energy charges to boost their effective range. In the high-energy versions, poorly designed energy conversion systems generate greater heat, increasing the risk of burnout or explosion.

Pulse lasers cycle very rapidly, firing small pulses of energy at the target. Instead of relying on a single beam, these lasers saturate a target area much as a machine gun does, increasing the chances of hitting the target. However, the weapon's fast recharge and fire cycle requirements actually reduce the strength of the laser. As a result, pulse lasers do less damage than their counterparts.

The colossal WarShip laser uses technology similar to the standard laser, but has a very poor damage-to-heat ratio.

Particle Projection Cannons

These weapons use a magnetic accelerator to fire high-energy protons and ions at their target. These particles form a



plasma that resembles lightning, causing damage by impact and heat. Despite their grossly inefficient energy conversion process and exaggerated tendency to overheat, the sheer amount of damage they do leads many military experts to regard PPCs as the most effective weapons available. Standard and naval versions of the particle cannon exist, including versions that boost range at the expense of increasing the weapon's already high heat levels.

SHIP CONSTRUCTION

Though less numerous than in the glorious Star League era, naval construction facilities exist throughout the Inner Sphere. Fighters and many DropShips can be assembled on a planet's surface, but some DropShips and all JumpShips must be assembled in orbit.

The following information supplements that found in **Objective Raids** and **Technical Readout: 3055**.

FIGHTERS

Fighter production throughout the Inner Sphere has changed little since 3054, with few new designs being produced. However, the designs currently in production have benefited from advances in technology, and most use weapons comparable to those of the Star League era.

DROPSHIPS

Following the lead of the newly established Dynamico Ltd., all Inner Sphere DropShip manufacturers have made it common practice to outfit DropShips with Star League technology when possible, especially weapons. Several yards have begun to produce new DropShips, predominantly attack craft (such as the *Claymore* being produced by the Shipil Company on the planet Skye in the Federated Commonwealth, or the *Kuan-ti* being produced jointly by Earthwerks and Kallon Industries, on the Capellan world of Ares and the Free Worlds League planet Loyalty), or carriers (such as the *Okinawa*, produced by BBP Industries on the Combine world of Luthien).

JUMPSHIPS AND WARSHIPS

Production of the standard transport JumpShip remains virtually unchanged from 3054, but in the last two years several yards have begun tooling up to produce WarShips. Most JumpShip yards are large enough to build the combat behemoths; however, certain key components of WarShips remain in short supply.

Few factories can produce the compact cores necessary to a WarShip's functioning. Only Ioto Galactic Enterprises (Alarion, Federated Commonwealth), the recently retooled New Earth Trading Company (New Earth, Federated Commonwealth), and Stellar Trek (Chatham, Draconis Combine) currently have the capability to produce compact Kearny-Fuchida drives. The yards of Technicron Manufacturing (Tamarind, Free Worlds League) and Universal Air (Delavan, Federated Commonwealth) are in the process of modernization, and their new production facilities will produce both standard and compact Kearny-Fuchida drive cores.

The interplanetary drive that allows a WarShip to maneuver poses a second manufacturing problem. The drives currently used by JumpShips and DropShips lack the necessary power to provide appreciable acceleration for even the smallest WarShips. At present only the Rolls-Royce Corporation, based in the British Isles of Terra, can produce drives of sufficient power. However, Rolls-Royce falls under the jurisdiction of ComStar, and the First Circuit has so far authorized only very limited and carefully vetted sales.

Badly damaged during the Amaris coup centuries ago, the Terran shipyards were once the most sophisticated in the Star League. ComStar restored some of these yards, allowing the order to produce and maintain both JumpShips and DropShips during the destructive years of the Succession Wars. ComStar has produced a limited number of both types of craft, and Com Guard personnel have recently begun researching means of increasing output and producing new designs more rapidly. At present, none of our Terran facilities can manufacture WarShips.

The James McKenna yards orbiting the planet Kathil in the Federated Commonwealth have recently resumed production after twenty years of inactivity. This famous facility, used most recently during the Fourth Succession War, suffered a massive systems failure in 3032 which relegated the yard to ship maintenance. Considerable reconstruction has taken place over the last two decades; though not as efficient as during their heyday, the Kathil shipyards produced a new JumpShip in November 3054. Beginning this year, the yard hopes to produce at least two *Merchant* and *Invader* Class JumpShips per year.

In addition to the Terran and Kathil shipyards, three new yards have recently begun or will soon begin manufacturing spacefaring vessels, including WarShips. Outstripping all its competition in WarShip production are the Federated Boeing Interstellar (FBI) shipyards orbiting the Federated Commonwealth world of Galax. The Galax yards are the last surviving Star League-era facility belonging to that great corporation, whose designers produced the famous *Lola III* WarShip for the Star League navy. The original shipyards of the Galax Megaplex could only produce DropShips, but in 3037 FBI purchased the derelict Challenge Systems shipyards on the world of Panpour, which were destroyed in a Kurita raid in 2796. Stripped of its valuable equipment, which had gone to repair the Universal Air shipyards at Delavan some years previously, the Challenge yards were little more than an orbiting skeleton. For close to twenty years Federated Boeing spent the bulk of its profits on restoring the Challenge yards, and as its reward the company now boasts one of the most modern shipyards in the Inner Sphere. Reports indicate that FBI is working closely with the New Avalon Institute of Science and the Federated Commonwealth government; the prototype *Fox* Class corvette is currently being assembled at the Challenge Systems facility.

The Draconis Combine lost its Dharma Hyperspace shipyards on the world of Schuyler to Clan Smoke Jaguar in the invasion, and the vital Chatham yards face constant risk of capture because of their proximity to the Clan front. Fearing the total loss of large shipbuilding capability, the Combine government has embarked upon a crash program to build an orbiting shipyard near the world of Dieron. The first stage, construction of a ship assembly facility, was completed in December 3055. Our sources indicate that the construction of a facility to produce compact Kearny-Fuchida drives will begin in September of this year, scheduled for completion by 3061. In the meantime, the Dieron yards will assemble JumpShips using parts produced at Chatham or purchased from yards elsewhere in the Inner Sphere. The Dieron facility currently houses the prototype *Kyushu* frigate, which is scheduled to begin trials in mid-3057. If the trials prove successful, the DCMS hopes to use the yard to produce WarShips on a large scale.

Captain-General Thomas Marik of the Free Worlds League and his prospective son-in-law, Chancellor Sun-Tzu Liao of the Capellan Confederation, have agreed to upgrade the Rashpur-Owens (formally Delhi WarShips) facility on the planet Capella. The Free Worlds League has agreed to provide technical advisors to oversee the construction, and the Capellan Confederation will supply most of the labor force. The jointly funded project will begin in early 3057, with the first new craft scheduled for production in 3062. ComStar has so far failed to glean any information about proposed ship designs, but because the Free Worlds League made great strides in the design and manufacturing of various weapons from its position as arms dealer to the Inner Sphere during the Clan War, we expect the Capellan facility to produce WarShips the equal of anything in the Inner Sphere, assuming construction goes as planned.

SPACE STATIONS

Space stations fall into the five following groups, though no station fits precisely in one category. Many stations fulfill several roles, acting simultaneously as jump stations, cargo/passenger terminals, and repair facilities. The most common type of space station is the cargo/passenger terminal, found in planetary orbit or at a world's zenith or nadir jump point. These stations comprise several modules designed for cargo and passenger transit between ship and surface, but carry few weapons. The jump station, so called because of its energy-collecting sail and storage banks, provides facilities for recharging JumpShips. Found only at nadir or zenith jump points, jump stations consist mostly of power modules, with limited space for crew and passengers. The *Olympus* Class space stations, the largest stations operating in the Inner Sphere, serve as both jump stations and ship repair yards. The standard orbiting factory or shipyard hangs in orbit around a planet and consists largely of industrial modules for the manufacture, construction, and maintenance of DropShips and JumpShips.

The final two types of space stations are battle stations and space habitats. These rare space stations usually only exist in the most secure star systems. The larger of the two are battle stations, designed primarily to defend a planet. A battle station carries an impressive array of heavy weapons, along with launch/recovery bays and repair facilities for fighters and small craft. The Succession Wars destroyed most of the battle stations guarding Inner Sphere worlds; the few that remain are located at jump points or in planetary orbit. Space habitats were constructed during humanity's initial colonial expansion from Terra during the 22nd and 23rd centuries, and most served as a "home base" from which to explore or terraform newly discovered planets. The population of these habitats dwindled over the intervening centuries; many were abandoned, their valuable components salvaged for use aboard other spacecraft. The few habitats that remain are either in close planetary orbit or at La Grange points in a planetary system. (These positions of gravitational stability are scattered throughout a system, and each planet usually has several La Grange points associated with it.) According to several ROM reports, the Clans use orbital habitats as sibkos for aerospace and naval bloodlines.

Unlike other orbital craft, a space station's size and lack of mobility requires that it be assembled at the station's intended location. A few easily transportable modules built in factories or orbiting shipyards form the core of each station. Once completed, the modules are transported by JumpShip to the assembly point, where tugs manipulate them into position. A protective shell encases the assembled modules, providing armor protection against stray meteors or hostile weapons fire.

Most stations carry standard ballistic and energy weapons, but the station's lack of thrust limits these weapons to defense. Some of the Inner Sphere's few remaining battle stations have begun to serve as test platforms for naval grade weaponry, which provides infinitely greater destructive power.

CLAN NAVIES

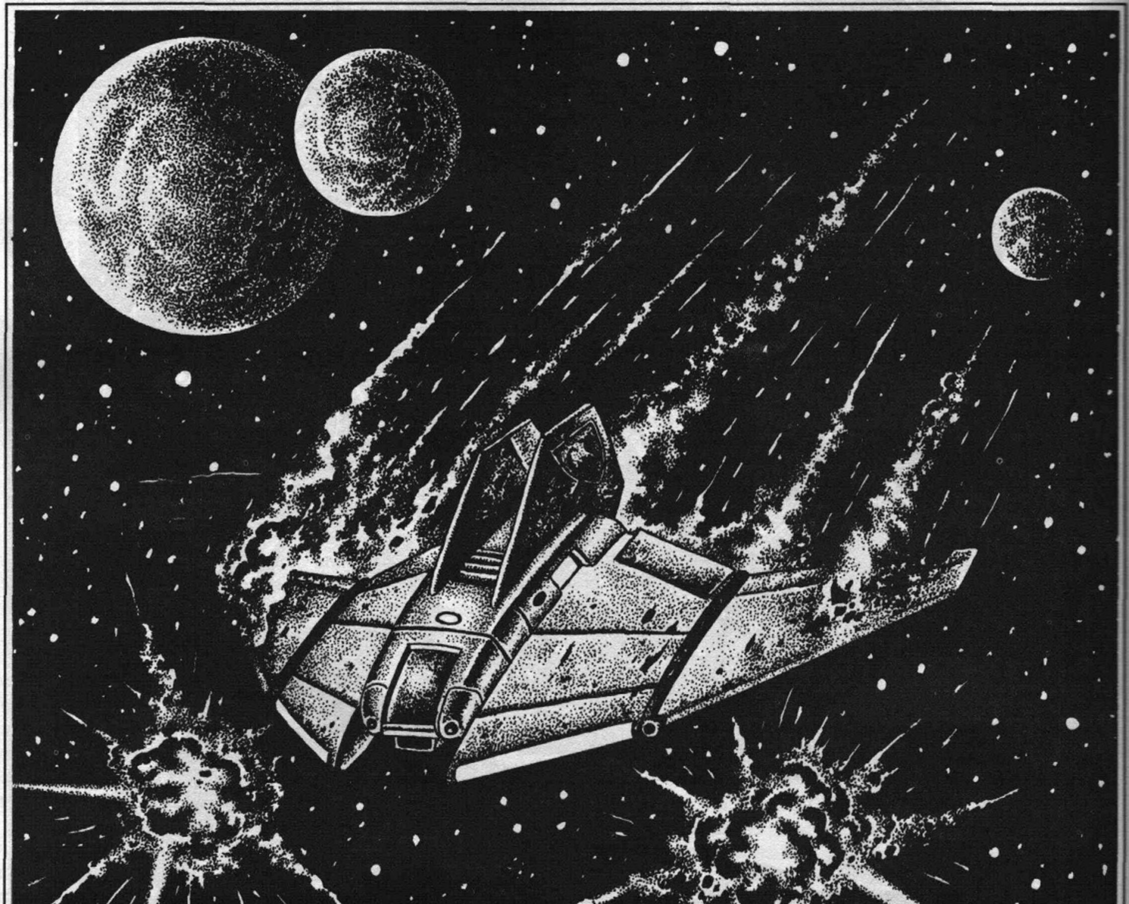
As yet, ComStar has no solid information on Clan naval construction facilities. We know that they manufacture new fighters and DropShips, but have found only scant evidence of WarShip or JumpShip facilities. All the Clan WarShips and JumpShips seen so far date from the Star League era, and may in fact be remnants of Kerensky's Exodus fleet. The fact that many Clan ships show modifications suggests that the Clans maintain some repair yards, but several military strategists have suggested that the Clans' sparing use of capital ships has made construction of new vessels unnecessary—implying, of course, that the Clans continue to use only the ships that Kerensky took in the Exodus. Others have suggested the Inner Sphere simply has not seen the modern Clan WarShips, which, together with the majority of the Clan fleet, remained to guard the Clan worlds against an Inner Sphere counterattack.

The Remembrance, the Clans' epic poem recording their history, describes the destruction of approximately one hundred WarShips in the Exodus Civil Wars. Based on what our own historical records tell us about the size of the Exodus fleet, the Clans should possess only 300 WarShips, if they do not have construction facilities. The seven Clans in the Inner Sphere have almost 120 WarShips between them; if the rest of the Clans each possess a similar number, this suggests a fleet size of just over 300 vessels. The current lack of data prevents ComStar from drawing any solid conclusions about the size of the Clan WarShip threat, but we hope to remedy this situation in the near future.

SZCZUDLO

BATTLESPACE SCENARIOS

These scenarios provide the historical troops involved in and the outcome of three naval conflicts. Two are part of the history of the Inner Sphere, one taking place during the Fourth Succession War and one part of the recent struggle against the Clan invasion. The third is a battle reconstructed from *The Remembrance,* the Clans' account of their history. Replaying these battles will give cadets an opportunity to simulate the conditions of a naval conflict, applying various strategies to a specific situation and troop configuration to discover the most effective use of resources.



HIDE AND SEEK

SITUATION: ARCADIA, PENTAGON CLUSTER, 8 OCTOBER 2802

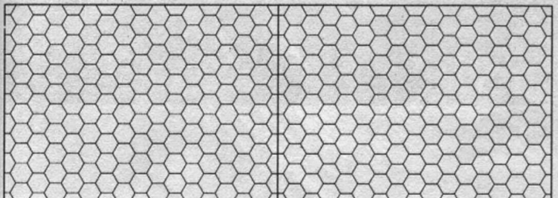
MY KINGDOM FOR A WARSHIP

—Reconstructed from *The Remembrance,* the Clans' account of their history

When Nicholas Kerensky's newly created Clans subdued their warring brethren on the Pentagon worlds, they discovered records of a wide-ranging space battle fought in the asteroid belt of the Arcadia system. The asteroid belt concealed large numbers of mothballed ships from the Exodus fleet, and the ships became a hotly contested resource during the Exodus Civil War. When most of the active navy joined Nicholas Kerensky in rejecting a war that promised to devastate the Exodus fleet as surely as the Succession Wars devastated the Inner Sphere, and formed the Clans, this second Exodus intensified the pressure on each warring Pentagon faction to capture the mothballed vessels. Two frigates belonging to the Liaoist faction of the SLDF, under the command of Commodore Amanda Noskeau, attempted to secure the use of these ships but ran afoul of a cruiser commanded by the staunch Davionist Admiral William Hopcroft. Because neither side had fighters or DropShips available, the resulting battle became a game of cat and mouse between the WarShips.

GAME SET-UP

Arrange the two **BattleSpace** mapsheets with the long edges together as shown. Each side may position 10 asteroid counters on the mapsheets. See **Asteroids**, p. 35 of the **Optional Rules** section of the **BattleSpace Rulebook**.



ATTACKER

The Attacker is the *Michael Norman*, a *Black Lion* Class battlecruiser carrying a Regular crew. See the **Crew** section, p. 62 of **Campaign Operations** in the **BattleSpace Rulebook.**

Deployment

The Attacker places his ship on any hex on the left side of the mapboard.

DEFENDER

The Defender consists of two *Congress* Class frigates, the *Long March* and the *Noble House.* Both carry Regular crews.

Deployment

Place the Defender's craft in any two different hexes on the right side of the mapboard.

VICTORY CONDITIONS

The last side with a functional ship wins the scenario.

HISTORICAL OUTCOME

The Liaoist forces attempted to outflank the *Norman*, and the frigate *Noble House* initially scored several major hits while taking little damage. However, the swift battlecruiser *Norman* eventually managed to rake the *Noble House*'s stern, damaging the frigate's maneuver drive. Unable to steer, the *Noble House* rammed into a large asteroid and exploded. The other frigate fared better, destroying much of the *Norman*'s port side. Attempting to capitalize on her advantage, Commodore Noskeau maneuvered toward the battlecruiser's blind port side to strike the killing blow. To her surprise and dismay, the mortally wounded *Norman* used the last of its power to roll and fire upon her frigate, its powerful guns crippling the *Long March.* Unable to function, both dying WarShips struck asteroids and blew apart. In the minutes before the fatal collisions, a few crew members escaped and lived to tell the story. The remaining Exodus fleet remained undisturbed until the Clans retook the Pentagon Cluster almost twenty years later. Rumor has it that the Wolf Clan flagship *Dire Wolf* is a recovered and refitted Exodus vessel.

DRAGON'S ROAR

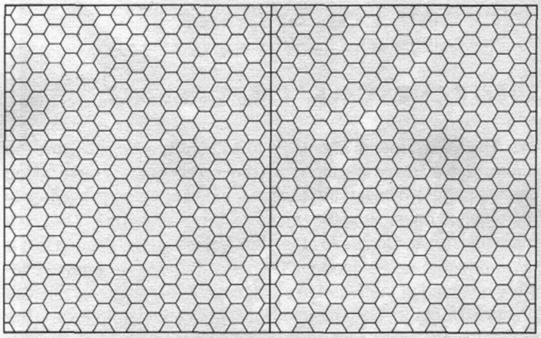
SITUATION: NILES, FEDERATED SUNS, 24 MAY 3029

DRACONIS STRIKES

Hanse Davion chose the occasion of his wedding to Melissa Steiner in 3028 to trigger war throughout the Inner Sphere. Smarting from a successful though limited assault by the Lyran Commonwealth, the Draconis Combine took advantage of the movement of Federated Suns troops to the Capellan border and seized several Federated Suns worlds. One such target was Niles, on the edge of the Draconis March nearest the Periphery. The invaders met light opposition, until the planetary militia sent four squadrons of fighters to meet the Kurita attackers.

GAME SET-UP

Lay out both **BattleSpace** mapsheets, placed with the two long edges adjacent as shown.



ATTACKER

The Attacker consists of four aerospace squadrons of the Fourth An Ting Legion.

Katana Squadron
- 2 *Slayers*
- 2 *Samurai*
- 2 *Shilones*

Daikyu Squadron
- 2 *Lightnings*
- 2 *Corsairs*
- 2 *Slayers*

Wakazashi Squadron
- 2 *Shilones*
- 2 *Sabres*
- 2 *Sholagars*

Sai Squadron
- 4 *Shilones*
- 2 *Samurai*

Deployment

The Attacker sets up after the Defender has deployed his last unit, placing his squadrons in any full hex along the right side of the map. Attacking forces may choose any orientation and starting velocity.

DEFENDER

The Defender consists of four aerospace squadrons of the Niles planetary militia.

Blue Squadron

2 *Corsairs*
4 *Sparrowhawks*

Red Squadron

2 *Sparrowhawks*
2 *Seydlitz*
2 *Corsairs*

Green Squadron

2 *Sparrowhawks*
2 *Sholagars*
2 *Corsairs*

White Squadron

4 *Corsairs*
2 *Lucifers*

Deployment

The Defender sets up first, and may place his squadrons in any full hex along the left side of the map. Defending forces may choose any orientation and starting velocity.

VICTORY CONDITIONS

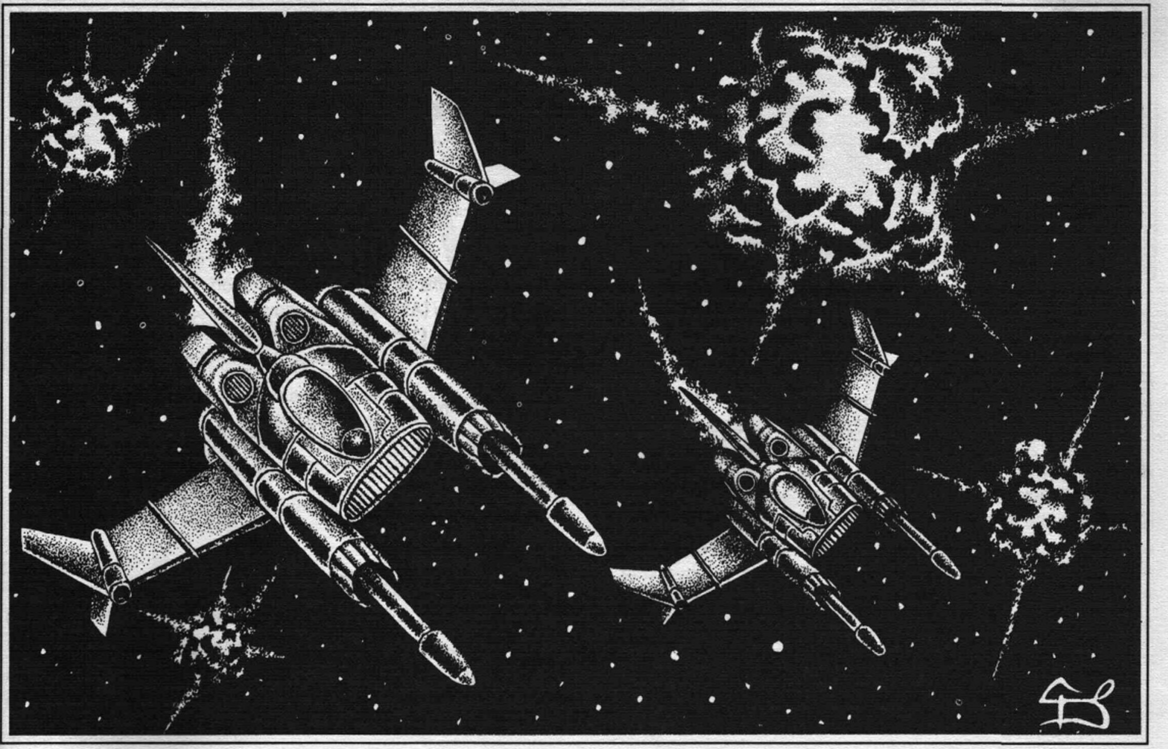
Each side receives 1 point per enemy fighter destroyed (one line of armor must be completely crossed off on that unit's record sheet). The side with the most points after 15 turns wins the engagement.

SPECIAL RULES

Any squadron that leaves the map may not re-enter and is no longer available to the player.

HISTORICAL OUTCOME

The battle initially went in favor of the Davion defenders, but moved closer to the planet as losses mounted on both sides. Breaking through the defending squadrons, the Kurita DropShips landed on Niles and successfully deployed their ground forces. Though they held off a battalion of the Fourth An Ting Legion for a week, the last AFFS forces surrendered on June 3, 3029.



RADSTADT

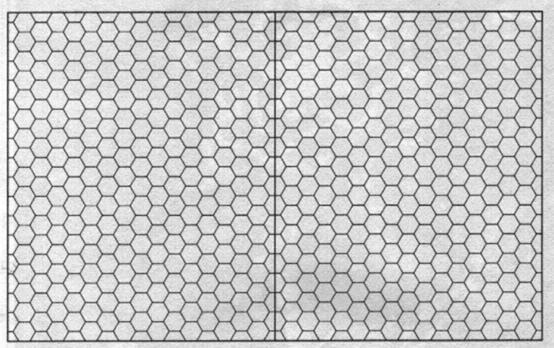
SITUATION: RADSTADT, FREE RASALHAGUE REPUBLIC (WOLF CLAN OCCUPATION ZONE), 31 OCTOBER 3050

SUICIDE RUN

On October 31, 3050, the leaders of the Clans met in orbit around the world of Radstadt in the Free Rasalhague Republic to hold a Grand Kurultai. This grand council, intended to decide the next phase of the Clan invasion of the Inner Sphere, would alter the Clan offensive in a way none of them had imagined. Hours before the meeting, a group of Free Rasalhague JumpShips fleeing the fighting on the capital world of Rasalhague arrived in the Radstadt system. Though shocked to see Clan vessels in territory they had believed safe, the Rasalhagian fighters and DropShips immediately attacked. Their furious, unexpected assault delayed the Clan response just long enough for the Rasalhague JumpShips to escape, carrying with them Haakon Magnusson, Elected Prince of the Republic. The aerospace fighters paid for their Prince's escape with their lives.

GAME SET-UP

Arrange the two **BattleSpace** mapsheets with the two long edges together, as shown.



ATTACKER

The Attacker is the Flying Drakøns, comprising five combat DropShips and four squadrons of aerospace fighters.

DropShips

Raven, a *Vengeance* Class DropShip
2 *Union* Class DropShips, the *Gungnir* and the *Sleipnir*
Karlshefni, a *Seeker* Class DropShip
Stöng, a *Fury* Class DropShip

Valkyrie Squadron

2 *Shilones*
4 *Sparrowhawks*

Fenir Squadron

2 *Sparrowhawks*
2 *Seydlitz*
2 *Corsairs*

Aesir Squadron

2 *Sparrowhawks*
2 *Sholagars*
2 *Corsairs*

Norn Squadron

6 *Sparrowhawks*

Deployment

The Attacker places the Drakøn DropShips within 1 hex of Hex 1408 on the left-hand mapsheet, and the Drakøn squadrons in any hex within 10 hexes of Hex 1408.

DEFENDER

The Defender is the *Dire Wolf*, a *Sovetskii Soyuz* Class heavy cruiser; its *Overlord* Class DropShips *Snap, Snarl, Howl,* and *Lair*, and the *Dire Wolf*'s complement of OmniFighters. The OmniFighter listings include the weapons configurations of each vessel.

Alpha Star

2 *Visigoths* (1 Primary configuration, 1 Configuration A)
4 *Jagatai* (All Primary configuration)
2 *Bashkir* (1 Primary, 1 Configuration A)
2 *Jenghiz* (1 Configuration A, 1 Configuration B)

Alpha Command

2 *Jagatai* (1 Primary, 1 Configuration A)

Bravo Command

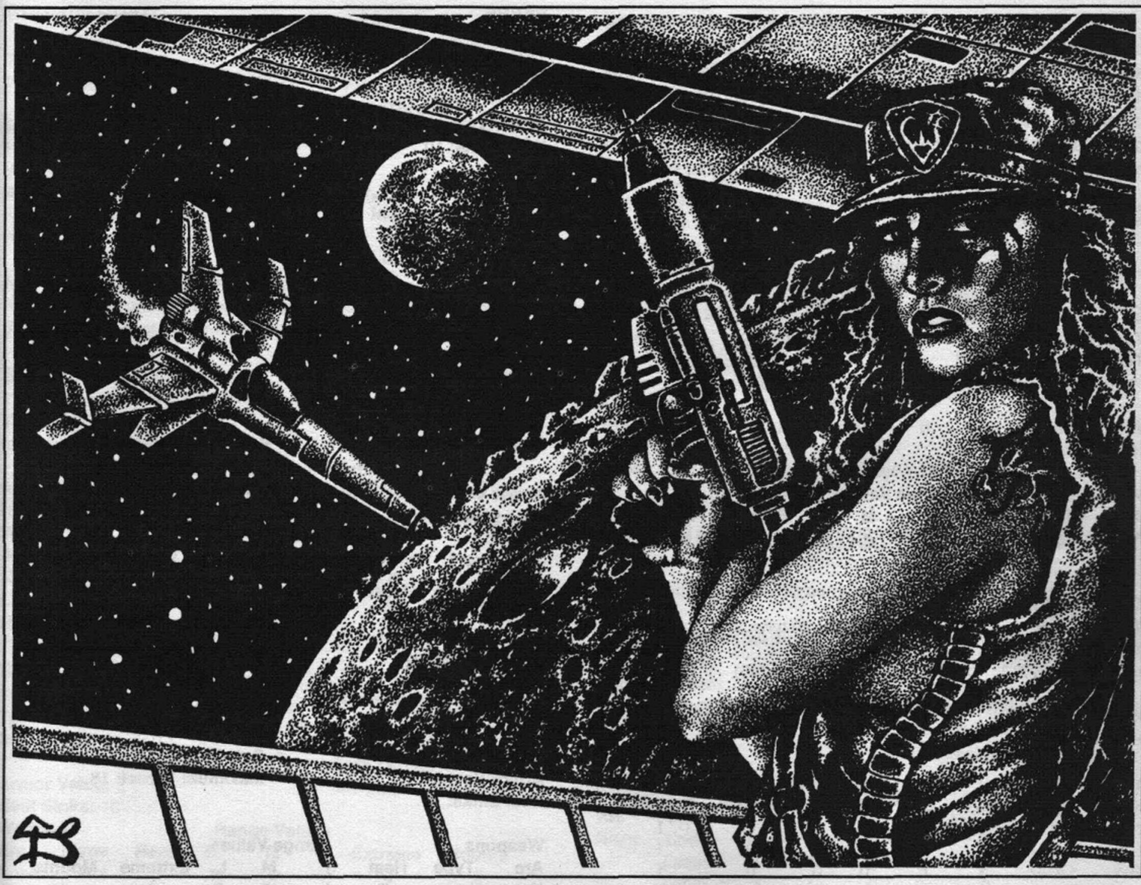
2 *Jagatai* (Both Configuration A)

Charlie Command

2 *Visigoths* (1 Configuration A, 1 Configuration C)

Deployment

The *Dire Wolf* begins in Hex 1307 of the right-hand mapsheet. The DropShips begin the scenario docked with the *Dire Wolf*, but may release according to the standard rules given in the **BattleSpace Rulebook**.



VICTORY CONDITIONS

Both sides score 1 point for each Armor or Critical box crossed off an enemy ship's record sheet. Destroying a DropShip or WarShip earns a number of points equal to all the craft's Armor and Critical boxes, in addition to any damaged before the vessel's destruction. The scenario lasts 10 turns; any Rasalhague forces remaining on the map at the end of Turn 10 count as destroyed.

The side with the highest score at the end of 10 turns wins the engagement.

SPECIAL RULES

Rasalhague forces may exit the map along any edge. Any units exiting may not re-enter the battle, but take no further damage. Clan units may not exit the map.

Alpha Fighter Star may launch at the beginning of Turn 3. The other Clan fighters launch at the start of Turn 4. Because the *Dire Wolf*'s escorts played little part in the battle, they are not included in the scenario.

HISTORICAL OUTCOME

The Drakøn fighters made several passes scant meters above the *Dire Wolf*s hull, inflicting moderate damage before the Clan OmniFighters rallied and struck back. However, the Drakøns owed their ultimate victory to the desperate courage of a single fighter pilot. Determined to strike the Clan enemy where it would hurt the most, Kapten Tyra Miraborg flew her crippled *Shilone* directly at the *Dire Wolf*, ramming the bridge and killing the Clan ilKhan Leo Showers. This act made Kapten Miraborg a legend among both the Clans and the Inner Sphere, earning her an unprecedented ten lines in the Clan epic, *The Remembrance*. Shocked by the death of their war leader and impressed by the Drakøns' bravery, the Clans declined to pursue the escaped JumpShips.

This section provides the **BattleSpace** statistics for the base configuration or original design of Inner Sphere and Clan aerospace fighters. The value given in parentheses for fuel represents the number of Thrust Points available for the amount of fuel the ship is carrying. (Because these craft were constructed using a system other than the **BattleSpace** construction rules, these values do not correspond to the Thrust Point formula provided in that section.)

LIGHT FIGHTERS

Light fighters are those aerospace craft weighing from 20–45 tons.

SYD Z1 SEYDLITZ

Type: Fighter
Mass: 20 tons
Tech: Standard
Introduced: 2504
Fuel: 3 tons (45)
Safe Thrust: 11
Armor Value:1
Maximum Thrust: 17
Heat Sinks: 10

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	8	1	1	0	0	1

TRN-3T TRIDENT

Type: Fighter
Mass: 20 tons
Tech: Star League
Introduced: 2717
Fuel: 3 tons (45)
Safe Thrust: 12
Armor Value: 1
Maximum Thrust: 18
Heat Sinks: 10

Weapons				**Range Values**			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	3	1	0	0	0	1
LW	Laser	3	1	0	0	0	1
RW	Laser	3	1	0	0	0	1
Aft	Laser	1	1	0	0	0	1

F10- CHEETAH

Type: Fighter
Mass: 25 tons
Tech: Standard
Introduced: 2630
Fuel: 4 tons (60)
Safe Thrust: 12
Armor Value: 1
Maximum Thrust: 18
Heat Sinks: 10

Weapons				**Range Values**			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	1	1	0	0	0	1
RW	Laser	3	1	0	0	0	1
LW	Laser	3	1	0	0	0	1
LW	Pulse	4	1	0	0	0	1

SABRE

Type: Fighter
Mass: 25 tons
Tech: Standard
Introduced: 2519
Fuel: 5 tons (75)
Safe Thrust: 11
Armor Value: 2
Maximum Thrust: 17
Heat Sinks: 10

Weapons				**Range Values**			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	3	1	0	0	0	1
LW	Laser	3	1	0	0	0	1
RW	Laser	3	1	0	0	0	1

Notes: Source: **AeroTech.**

SW-606 SWIFT

Type: Fighter
Mass: 25 tons
Tech: Star League
Introduced: 2682
Fuel: 3 tons (45)
Safe Thrust: 13
Armor Value: 1
Maximum Thrust: 21
Heat Sinks: 10

Weapons				**Range Values**			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	4	1	0	0	0	2

TR-7 THRUSH

Type: Fighter
Mass: 25 tons
Tech: Standard
Introduced: 2632
Fuel: 5 tons (75)
Safe Thrust: 12
Armor Value: 1
Maximum Thrust: 18
Heat Sinks: 10

Weapons				**Range Values**			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	3	1	0	0	0	1
LW	Laser	3	1	0	0	0	1
RW	Laser	3	1	0	0	0	1

CENTURION

Type: Fighter
Mass: 30 tons
Tech: Standard
Introduced: 2562
Fuel: 5 tons (75)
Safe Thrust: 10
Armor Value: 1
Maximum Thrust: 15
Heat Sinks: 10

Weapons				**Range Values**			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	3	1	0	0	0	1
LW	Laser	3	1	0	0	0	1
RW	Laser	3	1	0	0	0	1

Notes: Source: **AeroTech.**

SPD-502 SPAD

Type: Fighter
Mass: 30 tons
Tech: Star League
Introduced: 2749
Fuel: 5 tons (75)
Safe Thrust: 7
Armor Value: 3
Maximum Thrust: 11
Heat Sinks: 10

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	13	2	1	0	0	2
Aft	Laser	1	1	0	0	0	1

Notes: Created with modular systems, this fighter occupies the same niche in OmniFighter development as the *Mercury* BattleMech held in the development of the OmniMech.

SPR-H5 SPARROWHAWK

Type: Fighter
Mass: 30 tons
Tech: Standard
Introduced: 2520
Fuel: 5 tons (75)
Safe Thrust: 1
Armor Value:1
Maximum Thrust: 15
Heat Sinks: 10

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	6	1	0	0	0	2
LW	Laser	1	1	0	0	0	1
RW	Laser	1	1	0	0	0	1

SL-21 SHOLAGAR

Type: Fighter
Mass: 35 tons
Tech: Standard
Introduced: 2803
Fuel: 5 tons (75)
Safe Thrust: 10
Armor Value: 2
Maximum Thrust: 15
Heat Sinks: 10

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	SRM	3	1	0	0	0	2
LW	Laser	3	1	0	0	0	1
RW	Laser	3	1	0	0	0	1

ZRO-114 ZERO

Type: Fighter
Mass: 35 tons
Tech: Star League
Introduced: 2703
Fuel: 5 tons (75)
Safe Thrust: 6
Armor Value: 4
Maximum Thrust: 9
Heat Sinks: 10

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	15	2	2	1	0	3

RGU-133E ROGUE

Type: Fighter
Mass: 40 tons
Tech: Star League
Introduced: 2631
Fuel: 5 tons (75)
Safe Thrust: 7
Armor Value: 2
Maximum Thrust: 11
Heat Sinks: 10

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	3	1	0	0	0	1
LW	LRM	5	1	1	1	0	1
RW	LRM	5	1	1	1	0	1
Aft	Laser	3	1	0	0	0	1

THK-63 TOMAHAWK

Type: Fighter
Mass: 45 tons
Tech: Star League
Introduced: 2680
Fuel: 5 tons (75)
Safe Thrust: 8
Armor Value: 4
Maximum Thrust: 11
Heat Sinks: 24

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	1	1	0	0	0	1
LW	Laser	8	1	1	0	0	1
RW	Laser	8	1	1	0	0	1

Notes: The original version, introduced in 2642, had only 12 heat sinks.

MEDIUM FIGHTERS

Medium fighters are those aerospace craft weighing from 50–70 tons.

CSR-V12 CORSAIR

Type: Fighter
Mass: 50 tons
Tech: Standard
Introduced: 2779
Fuel: 5 tons (75)
Safe Thrust: 6
Armor Value: 5
Maximum Thrust: 9
Heat Sinks: 16

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	16	3	2	0	0	4
LW	Laser	3	1	0	0	0	1
RW	Laser	3	1	0	0	0	1
Aft	Laser	2	1	0	0	0	2

Notes: Variant.

HCT-213B HELLCAT II

Type: Fighter
Mass: 50 tons
Tech: Star League
Introduced: 2710
Fuel: 5 tons (75)
Safe Thrust: 7
Armor Value: 5
Maximum Thrust: 11
Heat Sinks: 15

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
LW	Laser	8	1	1	0	0	1
RW	Laser	8	1	1	0	0	1
Aft	Laser	3	1	0	0	0	1

Notes: Carries advanced-technology sensors. May detect other units as if it were a DropShip (see **Detection** rules, p. 48 in **Campaign Operations**).

SMALL CRAFT

LIGHTNING

Type: Fighter
Mass: 50 tons
Tech: Standard
Introduced: 2628
Fuel: 5 tons (75)
Safe Thrust: 6
Armor Value: 4
Maximum Thrust: 9
Heat Sinks: 13

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	10	1	1	0	0	2
LW	Laser	3	1	.0	0	0	1
RW	Laser	3	1	0	0	0	1
Aft	Laser	2	1	0	0	0	1

Notes: Source: **AeroTech**.

SL25 SAMURAI

Type: Fighter
Mass: 50 tons
Tech: Standard
Introduced: 2932
Fuel: 8 tons (120)
Safe Thrust: 7
Armor Value: 4
Maximum Thrust: 11
Heat Sinks: 19

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	10	2	0	0	0	4
LW	Laser	4	1	0	0	0	2
RW	Laser	4	1	0	0	0	2
Aft	Laser	4	1	0	0	0	2

Notes: Source: **Sorenson's Sabres**.

TR-10 TRANSIT

Type: Fighter
Mass: 50 tons
Tech: Standard
Introduced: 2932
Fuel: 5 tons (75)
Safe Thrust: 6
Armor Value: 4
Maximum Thrust: 9
Heat Sinks: 13

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	13	3	0	0	0	3
LW	Laser	3	1	0	0	0	1
RW	Laser	3	1	0	0	0	1

GTHA-500 GOTHA

Type: Fighter
Mass: 60 tons
Tech: Star-League
Introduced: 2657
Fuel: 6 tons (90)
Safe Thrust: 5
Armor Value: 6
Maximum Thrust: 7
Heat Sinks: 14

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	16	2	1	0	0	3
LW	Mixed	6	2	1	0	0	2
RW	Mixed	6	2	1	0	0	2
Aft	Laser	6	1	0	0	0	2

HCT-213 HELLCAT

Type: Fighter
Mass: 60 tons
Tech: Standard
Introduced: 2671
Fuel: 5 tons (75)
Safe Thrust: 6
Armor Value: 4
Maximum Thrust: 9
Heat Sinks: 20

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	14	2	1	0	0	3
LW	Laser	11	1	1	0	0	2
RW	Laser	11	1	1	0	0	2
Aft	Laser	3	1	0	0	0	1

Notes: Source: **AeroTech**.

F-90 STINGRAY

Type: Fighter
Mass: 60 tons
Tech: Standard
Introduced: 2762
Fuel: 5 tons (75)
Safe Thrust: 6
Armor Value: 5
Maximum Thrust: 9
Heat Sinks: 20

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	PPC	10	1	1	0	0	1
LW	Laser	11	1	1	0	0	2
RW	Laser	11	1	1	0	0	2

IRN-SD1 IRONSIDES

Type: Fighter
Mass: 65 tons
Tech: Star League
Introduced: 2613
Fuel: 5 tons (75)
Safe Thrust: 6
Armor Value: 4
Maximum Thrust: 9
Heat Sinks: 20

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	24	3	2	0	0	3
LW	Mixed	11	2	0	0	0	3
RW	Mixed	11	2	0	0	0	3

LCF R15 LUCIFER

Type: Fighter
Mass: 65 tons
Tech: Standard
Introduced: 2526
Fuel: 5 tons (75)
Safe Thrust: 5
Armor Value: 4
Maximum Thrust: 7
Heat Sinks: 20

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	20	3	3	1	0	3
LW	Laser	2	1	0	0	0	2
RW	Laser	2	1	0	0	0	2
Aft	Laser	3	1	0	0	0	1

Notes: The R15LG variant is identical to the R15.

SL-17 SHILONE

Type: Fighter
Tech: Standard
Introduced: 2787
Mass: 65 tons
Fuel: 5 tons (75)
Safe Thrust: 6
Maximum Thrust: 9
Armor Value: 5
Heat Sinks: 20

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	14	2	2	1	0	2
LW	Laser	3	1	0	0	0	1
RW	Laser	3	1	0	0	0	1
Aft	SRM	3	1	0	0	0	1

HEAVY FIGHTERS

Heavy fighters are those aerospace craft weighing from 75–100 tons.

EAGLE

Type: Fighter
Tech: Standard
Introduced: 2492
Mass: 75 tons
Fuel: 5 tons (75)
Safe Thrust: 6
Maximum Thrust: 9
Armor Value: 6
Heat Sinks: 25

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	11	1	1	0	0	2
LW	Laser	11	1	1	0	0	2
RW	Laser	11	1	1	0	0	2
Aft	Laser	3	1	0	0	0	1

Notes: Source: **AeroTech**.

HRM-HD HAMMERHEAD

Type: Fighter
Tech: Star-League
Introduced: 2534
Mass: 75 tons
Fuel: 5 tons (75)
Safe Thrust: 7
Maximum Thrust: 11
Armor Value: 5
Heat Sinks: 10

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	AC	7	2	0	0	0	1

Notes: Original version entered service in 2407.

TR-13 TRANSGRESSOR

Type: Fighter
Tech: Standard
Introduced: 2890
Mass: 75 tons
Fuel: 5 tons (75)
Safe Thrust: 6
Maximum Thrust: 9
Armor Value: 6
Heat Sinks: 25

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	11	1	1	0	0	2
LW	Laser	11	1	1	0	0	2
RW	Laser	11	1	1	0	0	2
Aft	Laser	3	1	0	0	0	1

SL-15 SLAYER

Type: Fighter
Tech: Standard
Introduced: 2657
Mass: 80 tons
Fuel: 10 tons (150)
Safe Thrust: 6
Maximum Thrust: 9
Armor Value: 6
Heat Sinks: 20

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	6	2	1	0	0	2
LW	Laser	6	1	0	0	0	2
RW	Laser	6	1	0	0	0	2
Aft	Laser	3	1	0	0	0	1

RPR-100 RAPIER

Type: Fighter
Tech: Star League
Introduced: 2596
Mass: 85 tons
Fuel: 5 tons (75)
Safe Thrust: 6
Maximum Thrust: 9
Armor Value: 5
Heat Sinks: 24

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	31	5	3	1	0	4

AHB-X AHAB

Type: Fighter
Tech: Star League
Introduced: 2697
Mass: 90 tons
Fuel: 5 tons (75)
Safe Thrust: 5
Maximum Thrust: 8
Armor Value: 6
Heat Sinks: 18

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	17	2	1	0	0	4
LW	Laser	10	2	1	1	0	2
RW	Laser	10	2	1	1	0	2
Aft	Laser	6	1	0	0	0	2

Notes: Prototype of AHD-443 Ahab

CHP-W5 CHIPPEWA

Type: Fighter
Tech: Standard
Introduced: 2780
Mass: 90 tons
Fuel: 5 tons (75)
Safe Thrust: 5
Maximum Thrust: 8
Armor Value: 3
Heat Sinks: 25

Weapons			Range Values				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	20	4	2	2	0	5
LW	Laser	16	2	2	0	0	2
RW	Laser	16	2	2	0	0	2
Aft	Laser	2	1	0	0	0	2

F-500 RIEVER

Type: Fighter
Tech: Standard
Introduced: 2810
Mass: 100 tons
Fuel: 5 tons (75)
Safe Thrust: 5
Armor Value: 6
Maximum Thrust: 8
Heat Sinks: 28

Weapons			Range Values				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	11	3	1	1	0	2
LW	Laser	8	2	0	0	0	2
RW	Laser	8	2	0	0	0	2

STU-K5 STUKA

Type: Fighter
Tech: Standard
Introduced: 2530
Mass: 100 tons
Fuel: 5 tons (75)
Safe Thrust: 5
Armor Value: 6
Maximum Thrust: 8
Heat Sinks: 30

Weapons			Range Values				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	12	2	1	1	0	3
LW	Laser	16	2	2	0	0	2
RW	Laser	16	2	2	0	0	2
Aft	Laser	6	1	0	0	0	2

THUNDERBIRD

Type: Fighter
Tech: Standard
Introduced: 2487
Mass: 100 tons
Fuel: 5 tons (75)
Safe Thrust: 5
Armor Value: 6
Maximum Thrust: 8
Heat Sinks: 25

Weapons			Range Values				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	11	1	1	0	0	2
LW	Laser	17	3	2	1	0	3
RW	Laser	17	3	2	1	0	3
Aft	Laser	6	1	0	0	0	2

Notes: Source: **AeroTech**.

OMNIFIGHTERS

Like OmniMechs, Clan OmniFighters use technologically advanced components and reconfigurable pod technology. This section provides **BattleSpace** game statistics for the twelve OmniFighters introduced in **Technical Readout: 3055**.

BASHKIR

Type: OmniFighter
Tech: Clan
Introduced: 2930
Mass: 20 tons
Fuel: 3 tons (45)
Safe Thrust: 13
Armor Value: 2
Maximum Thrust: 20
Heat Sinks: 22

Primary Configuration

Weapons			Range Values				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	4	1	1	0	0	2
LW	Laser	5	1	1	0	0	1
RW	Laser	5	1	1	0	0	1

Notes: Configuration D may carry 2 tons of cargo.

VANDAL

Type: OmniFighter
Tech: Clan
Introduced: 2941
Mass: 30 tons
Fuel: 3 tons (45)
Safe Thrust: 14
Armor Value: 2
Maximum Thrust: 21
Heat Sinks: 20

Primary Configuration

Weapons			Range Values				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	4	1	0	0	0	2

Notes: Carries advanced-technology sensors. May detect other units as if it were a DropShip (see **Detection** rules, p. 48 in **Campaign Operations**).

AVAR

Type: OmniFighter
Tech: Clan
Introduced: 2878
Mass: 35 tons
Fuel: 3 tons (45)
Safe Thrust: 10
Armor Value: 3
Maximum Thrust: 15
Heat Sinks: 20

Primary Configuration

Weapons			Range Values				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	20	3	3	1	1	3
LW	Pulse	4	1	1	0	0	1
RW	Pulse	4	1	1	0	0	1

BATU

Type: OmniFighter
Tech: Clan
Introduced: 2987
Mass: 40 tons
Fuel: 3 tons (45)
Safe Thrust: 9
Armor Value: 4
Maximum Thrust: 14
Heat Sinks: 24

Primary Configuration

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Laser	12	2	2	2	2	1
LW	Pulse	8	2	2	0	0	2
RW	Pulse	8	2	2	0	0	2
Aft	Laser	5	1	1	0	0	1

SULLA

Type: OmniFighter
Tech: Clan
Introduced: 2998

Armor Value: 4
Heat Sinks: 26

Mass: 45 tons

Fuel: 5 tons (75)
Safe Thrust: 9
Maximum Thrust: 14

Primary Configuration

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	PPC	15	2	2	2	0	1
LW	Laser	12	1	1	1	1	1
RW	Laser	12	1	1	1	1	1
Aft	Point	0	1	0	0	0	1

TURK

Type: OmniFighter
Tech: Clan
Introduced: 3012

Armor Value: 5
Heat Sinks: 28

Mass: 50 tons

Fuel: 5 tons (75)
Safe Thrust: 7
Maximum Thrust: 11

Primary Configuration

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
LW	Mixed	27	3	3	3	1	2
RW	Mixed	27	3	3	3	1	2

VISIGOTH

Type: OmniFighter
Tech: Clan
Introduced: 2948

Armor Value: 5
Heat Sinks: 32

Mass: 60 tons

Fuel: 5 tons (75)
Safe Thrust: 7
Maximum Thrust: 11

Primary Configuration

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	17	3	3	0	0	4
LW	Mixed	5	1	1	0	0	2
RW	Mixed	5	1	1	0	0	2
Aft	Laser	8	1	1	0	0	2

JAGATAI

Type: OmniFighter
Tech: Clan
Introduced: 3016

Armor Value: 5

Mass: 70 tons

Fuel: 4 tons (60)
Safe Thrust: 6
Maximum Thrust: 9

Heat Sinks: 34

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	LRM	6	1	1	1	0	1
LW	Mixed	25	3	3	3	0	2
RW	Mixed	25	3	3	3	0	2
Aft	Pulse	10	1	1	1	0	1

SABUTAI

Type: OmniFighter
Tech: Clan
Introduced: 3048

Armor Value: 5
Heat Sinks: 42

Mass: 75 tons

Fuel: 3 tons (45)
Safe Thrust: 6
Maximum Thrust: 9

Primary Configuration

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	3	2	1	1	0	2
LW	Mixed	25	3	3	3	0	2
RW	Mixed	25	3	3	3	0	2
Aft	Laser	4	1	0	0	0	2

JENGIZ

Type: OmniFighter
Tech: Clan
Introduced: 3032

Armor Value: 7

Mass: 80 tons

Fuel: 4 tons (60)
Safe Thrust: 6
Maximum Thrust: 9

Primary Configuration
Heat Sinks: 40

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	21	3	3	2	0	4
LW	Mixed	18	3	2	1	0	3
RW	Mixed	18	3	2	1	0	3
Aft	Pulse	4	1	1	0	0	1

SCYTHA

Type: OmniFighter
Tech: Clan
Introduced: 2968

Armor Value: 7

Mass: 90 tons

Fuel: 4 tons (60)
Safe Thrust: 6
Maximum Thrust: 9

Primary Configuration
Heat Sinks: 52

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**Mounts**
Nose	Mixed	28	5	4	1	0	3
LW	Mixed	24	2	2	2	2	2
RW	Mixed	24	2	2	2	2	2
Aft	Pulse	10	1	1	0	0	1

LARGE CRAFT

This section provides **BattleSpace** game statistics for Inner Sphere and Clan DropShips, JumpShips, WarShips, and space stations. Cost is as of August 1, 3056. The value given in parentheses for fuel represents the number of Thrust Points available for the amount of fuel the ship is carrying. (Because all currently operating large ships are unique and were constructed using a system other than the **BattleSpace** construction rules, these values do not correspond to the Thrust Point formula provided in that section.)

INNER SPHERE DROPSHIPS

FURY

One of the smallest DropShips operated by the armies of the Successor States, the *Fury* Class DropShip is designed to deliver four platoons of infantry onto the battlefield, along with their equipment and eight light vehicles. *Fury* Class DropShips usually operate in conjunction with a *Gazelle* Class armor transport, escorted by a *Leopard CV*.

Type: Military Aerodyne
Use: Troop carrier
Tech: Standard
Introduced: 2638

Mass: 1,850 tons
Dimensions
Length: 79 meters
Width: 73.2 meters
Height: 28.1 meters

Fuel: 140 tons (1,400)
Tons/Burn-day: 1.65
Safe Thrust: 4
Maximum Thrust: 6
Heat Sinks: 78

Armor:
Fore: 13
Side: 12
Aft: 12

Weapons

			Range Values			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	Laser	6	1	—	—	—
Nose	PPC	10	1	1	—	—
LW	LRM	6	1	1	1	—
LW	Laser	7	2	—	—	—
RW	LRM	6	1	1	1	—
RW	Laser	7	2	—	—	—
Aft	Laser	3	1	—	—	—
Aft	AC	3	1	1	—	—

Cargo: 200 tons

Bay 1: Vehicles (8 Light)	1 Door
Bay 2: Infantry (112)	1 Door
Bay 3: Cargo	1 Door

Crew: 8
Troops: 128
Marine Points: 5

Cost: 30,000,000 C-bills
Revenue/Mission: 30,000 C-bills

Notes: Combined arms transport.

GAZELLE

The light *Gazelle* Class DropShip can carry 15 tanks and their technical support crews. The DropShip's small size means that the vehicles must be tightly packed, posing problems when unloading inexperienced units. *Gazelles* frequently operate in conjunction with the smaller *Fury* Class troop transports.

Type: Military Aerodyne
Use: Troop carrier
Tech: Standard
Introduced: 2531

Mass: 1,903 tons
Dimensions:
Length: 79 meters
Width: 73.2 meters
Height: 28.1 meters

Fuel: 137 tons (1,233)
Tons/Burn-day: 1.84
Safe Thrust: 4
Maximum Thrust: 6

Armor:
Fore: 14
Side: 12
Aft: 11

Heat Sinks: 70
Weapons

			Range Values			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	LRM	6	1	1	1	—
Nose	AC	1	1	1	—	—
Nose	Laser	3	1	—	—	—
LW	PPC	10	1	1	—	—
LW	SRM	4	1	—	—	—
LW	Laser	6	1	—	—	—
RW	PPC	10	1	1	—	—
RW	SRM	4	1	—	—	—
RW	Laser	6	1	—	—	—
Aft	Laser	14	2	1	—	—

Cargo: 950 tons

Bay 1: Vehicles (14 Heavy)	1 Door
Bay 2: Cargo	1 Door
Bay 3: Passengers (45)	1 Door

Crew: 10
Troops: 45
Marine Points: 5

Cost: 40,000,000 C-bills (new)
Revenue/Mission: 40,000 C-bills

Notes: Armor transport

SEEKER

The swift *Seeker* Class DropShip carries scout battalions into hostile territory, and its speed enables it to operate independently of support vessels. If necessary, the *Seeker* can reconfigure 16 of its vehicle bays to transport four BattleMechs.

Type: Military Spheroid
Use: Troop carrier
Tech: Standard
Introduced: 2815

Mass: 3,700 tons
Dimensions:
Length: 90.2 meters
Width: 90.2 meters
Height: 88.7 meters

Fuel: 215 tons (1,314)
Tons/Burn-day: 1.84
Safe Thrust: 5
Maximum Thrust: 8

Armor:
Fore: 14
Side: 12
Aft: 11

Heat Sinks: 88
Weapons

Arc	Type	Heat	S	M	L	Extreme
			Range Values			
FR	PPC	10	1	1	—	—
FL	PPC	10	1	1	—	—
AL	LRM	4	1	1	1	—
AL	Laser	14	2	1	—	—
AR	LRM	4	1	1	1	—
AR	Laser	14	2	1	—	—
Aft	Laser	14	2	1	—	—

Cargo: 1,350 tons (see **Notes**)
Bay 1: Vehicles (40 to 48 Light)1 Door
Bay 2: Vehicles (24) or 'Mechs (4)1 Door
Bay 3: Passengers (120) 1 Door

Crew: 20
Troops: 120
Marine Points: 10

Cost: 100,000,000 C-bills (new)
Revenue/Mission: 105,000 C-bills

Notes: May carry 64 light vehicles, or 48 light vehicles and 4 BattleMechs.

CONDOR

This huge infantry transport can carry a battalion of troops and 20 support vehicles. The vessel's sizable medical facility has the capacity to treat six emergency cases at the same time.

Type: Military Aerodyne
Use: Troop carrier
Tech: Standard
Introduced: 2801

Mass: 4,500 tons
Dimensions:
Length: 104 meters
Width: 97.4 meters
Height: 36.1 meters

Fuel: 208 tons (1,260)
Tons/Burn-day: 1.84
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 15
Side: 13
Aft: 12

Heat Sinks: 90
Weapons

Arc	Type	Heat	S	M	L	Extreme
			Range Values			
Nose	PPC	10	1	1	—	—
Nose	AC	1	1	1	—	—
Nose	LRM	5	1	1	1	—
Nose	Laser	6	1	—	—	—
LW	AC	1	1	1	—	—
LW	Laser	22	3	2	—	—
RW	AC	1	1	1	—	—
RW	Laser	22	3	2	—	—
Aft	Laser	14	2	1	—	—

Cargo: 400 tons
Bay 1: Vehicles (20 Light)1 Door
Bay 2: Infantry (336)1 Door
Bay 3: Cargo1 Door

Crew: 24
Troops: 376
Marine Points:

Cost: 300,000,000 C-bills (new)
Revenue/Mission: 300,000 C-bills

Notes: Infantry transport.

TRIUMPH

Originally designed to carry an armor battalion onto the field, this huge aerodyne DropShip has admirably fulfilled that mission for 450 years. A number of variants exist that can also carry BattleMechs and Aerospace fighters, making the *Triumph* a superb combined-arms transport.

Type: Military Aerodyne
Use: Troop carrier
Tech: Standard
Introduced: 2593

Mass: 5,600 tons
Dimensions:
Length: 129 meters
Width: 120.2 meters
Height: 43 meters

Fuel: 250 tons (1,250)
Tons/Burn-day: 1.84
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 15
Side: 14
Aft: 12

Heat Sinks: 112
Weapons

Arc	Type	Heat	S	M	L	Extreme
			Range Values			
Nose	PPC	10	1	1	—	—
Nose	AC	3	1	1	—	—
Nose	LRM	6	1	1	1	—
Nose	Laser	6	1	—	—	—
LW	AC	3	1	1	—	—
LW	LRM	5	1	1	1	—
LW	Laser	14	2	1	—	—
RW	AC	3	1	1	—	—
RW	LRM	5	1	1	1	—
RW	Laser	14	2	1	—	—
Aft	Laser	6	1	—	—	—
Aft	LRM	4	1	1	1	—

Cargo: 3,260 tons
Bay 1: Vehicles (45 Heavy) 1 Door
Bay 2: Vehicles (8 Light) 1 Door
Bay 3: Passengers (135) 1 Door

Crew: 15
Troops: 135
Marine Points: 5

EXCALIBUR

The largest military vessel still in service, the *Excalibur* can transport a complete combined-arms regiment consisting of a full infantry battalion, two battalions of tanks, and a BattleMech company.

Type: Military Spheroid
Use: Troop carrier
Tech: Standard
Introduced: 2,786

Mass: 16,000 tons
Dimensions:
Length: 113 meters
Width: 113 meters
Height: 124.9 meters

Fuel: 300 tons (1,200)
Tons/Burn-day: 1.84
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 20
Side: 18
Aft: 15

Heat Sinks: 129

Weapons				**Range Values**		
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	AC	1	1	1	—	—
Nose	LRM	4	1	1	1	—
Nose	Laser	3	1	—	—	—
FL	PPC	10	1	1	—	—
FL	LRM	8	2	2	2	—
FL	Laser	6	1	—	—	—
FR	PPC	10	1	1	—	—
FR	LRM	8	2	2	2	—
FR	Laser	6	1	—	—	—
AL	Laser	14	2	1	—	—
AR	Laser	14	2	1	—	—
Aft	Laser	11	1	1	—	—

Cargo: 600 tons
Bay 1: Vehicles (90 Heavy) 1 Door
Bay 2: 'Mechs (12) 1 Door
Bay 3: Infantry (336) 1 Door

Crew: 50
Troops: 606
Marine Points: 10

Cost: 750,000,000 C-bills (new)
Revenue/Mission: 700,000 C-bills

Notes: Does not have 'Mech repair facilities, and may not drop 'Mechs.

LEOPARD

A workhorse among Inner Sphere military DropShips, the *Leopard* is designed to carry one 'Mech lance and one lance of Aerospace fighters. It often operates in the vanguard of planetary assaults, backing up its fighter complement. The transport area for the 'Mechs and fighters take up most of the room; the *Leopard* has cramped crew quarters that barely accomodate the DropShip crew, MechWarriors, and technical personnel.

Type: Military Aerodyne
Use: 'Mech carrier
Tech: Standard
Introduced: 2537

Mass: 1,720 tons
Dimensions:
Length: 65.5 meters
Width: 51.6 meters
Height: 22.4 meters

Fuel: 123 tons (1,230)
Tons/Burn-day: 1.84
Safe Thrust: 4
Maximum Thrust: 6

Armor:
Fore: 14
Side: 13
Aft: 10

Heat Sinks: 80

Weapons				**Range Values**		
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	PPC	20	2	2	—	—
Nose	LRM	6	1	1	1	—
Nose	Laser	9	2	—	—	—
LW	LRM	6	1	1	1	—
LW	Laser	19	2	2	—	—
RW	LRM	6	1	1	1	—
RW	Laser	19	2	2	—	—
Aft	Laser	14	2	1	—	—

Cargo: See **Notes**
Bay 1: 'Mechs (4) 4 Doors
Bay 2: Fighters (2) 2 Doors
Bay 3: NA

Crew: 9
Passengers: 12
Marine Points: 2

Cost: 60,000,000 C-bills (new)
Revenue/Mission: 60,000 C-bills

Notes: Each 'Mech or fighter cubicle removed will provide 150 tons of cargo space. Each 'Mech bay may be converted into a vehicle bay, allowing 8 light vehicles to be carried (total 150 tons).

UNION

Despite being less numerous than its smaller cousins, the *Union* Class vessel remains the Inner Sphere's standard military DropShip. Designed to transport a 'Mech company, it can either deliver them directly to the surface or drop them onto the battlefield from low orbit. Most *Union* DropShips have undergone several refits since their original construction, and the Inner Sphere militaries have developed numerous variants on the original design.

Type: Military Spheroid
Use: 'Mech carrier
Tech: Standard
Introduced: 2708

Mass: 3,500 tons
Dimensions:
Length: 81.5 meters
Width: 81.5 meters
Height: 78 meters

Fuel: 209 tons (1,254)
Tons/Burn-day: 2.82
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 18
Side: 18
Aft: 10

Heat Sinks: 90

Weapons			Range Values			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	PPC	10	1	1	—	—
Nose	AC	2	1	1	—	—
Nose	LRM	12	2	2	2	—
Nose	Laser	6	1	—	—	—
FL	PPC	10	1	1	—	—
FL	AC	2	1	1	—	—
FL	LRM	12	2	2	2	—
FL	Laser	14	2	1	—	—
FR	PPC	10	1	1	—	—
FR	AC	2	1	1	—	—
FR	LRM	12	2	2	2	—
FR	Laser	14	2	1	—	—
AL	Laser	14	2	1	—	—
AR	Laser	14	2	1	—	—
Aft	Laser	14	2	1	—	—

Cargo: 25 tons
Bay 1: 'Mechs (6) 2 Doors
Bay 2: 'Mechs (6) 2 Doors
Bay 3: Fighters (2) 2 Doors

Crew: 14
Passengers: 28
Marine Points: 5

Cost: 160,000,000 C-bills (new)
Revenue/Mission: 150,000 C-bills

OVERLORD

The largest 'Mech carrier used by the Successor States, the *Overlord* entered service just before the Amaris Coup in 2766. Only the Clan variant carries more BattleMechs than the *Overlord* Class vessel. The standard design carries a complete 'Mech battalion and its full complement of Aerospace support, and usually operates as part of a planetary assault force.

Type: Military Spheroid
Use: 'Mech carrier
Tech: Standard
Introduced: 2762

Mass: 9,700 tons
Dimensions:
Length: 99 meters
Width: 99 meters
Height: 131.2 meters

Fuel: 306 tons (1,224)
Tons/Burn-day: 1.84
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 22
Side: 21
Aft: 15

Heat Sinks: 120

Weapons			Range Values			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	PPC	20	2	2	—	—
Nose	AC	16	5	1	—	—
Nose	Laser	6	1	—	—	—
FL	PPC	10	1	1	—	—
FL	AC	1	1	1	—	—
FL	LRM	6	1	1	1	—
FL	Laser	14	2	1	—	—
FR	PPC	10	1	1	—	—
FR	AC	1	1	1	—	—
FR	LRM	6	1	1	1	—
FR	Laser	14	2	1	—	—
AL	PPC	10	1	1	—	—
AL	Laser	14	2	1	—	—
AR	PPC	10	1	1	—	—
AR	Laser	14	2	1	—	—
Aft	AC	2	1	1	—	—
Aft	LRM	6	1	1	1	—
Aft	Laser	22	3	2	—	—

Cargo: 50 tons
Bay 1: 'Mechs (18) 3 Doors
Bay 2: 'Mechs (18) 3 Doors
Bay 3: Fighters (6) 2 Doors

Crew: 43
Passengers: 63
Marine Points: 14

Cost: 430,000,000 C-bills (new)
Revenue/Mission: 400,000 C-bills

AVENGER

Despite being one of the smallest Inner Sphere DropShips, the *Avenger* carries unexpectedly big guns and heavy armor. The combination of heavy weapons and considerable speed make the *Avenger* Class vessel extremely versatile. Most Inner Sphere militaries use it as an attack vessel or to secure landing zones, allowing other craft to land and unload their troops under the protection of its guns.

Type: Military Aerodyne
Use: Assault ship
Tech: Standard
Introduced: 2816

Mass: 1,400 tons
Dimensions:
Length: 50.5 meters
Width: 42 meters
Height: 11.9 meters

Fuel: 160 tons (1,600)
Tons/Burn-day: 1.84
Safe Thrust: 7
Maximum Thrust: 11

Armor:
Fore: 23
Side: 20
Aft: 18

Heat Sinks: 70

Weapons			Range Values			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	AC	9	3	1	—	—
Nose	LRM	6	1	1	1	—
Nose	Laser	22	3	2	—	—
LW	PPC	10	1	1	—	—
LW	AC	2	1	1	—	—
LW	LRM	6	1	1	1	—
LW	Laser	6	1	—	—	—
RW	PPC	10	1	1	—	—
RW	AC	2	1	1	—	—
RW	LRM	6	1	1	1	—
RW	Laser	6	1	—	—	—
Aft	LRM	6	1	1	1	—
Aft	Laser	6	1	—	—	—

Cargo: 93 tons
Bay 1: Cargo1 Door
Bay 2: NA
Bay 3: NA

Crew: 15
Marines: 15
Marine Points: 15

Cost: 70,000,000 C-bills (new)
Revenue/Mission: 500,000 C-bills

INTRUDER

The *Intruder* Class DropShip supports assault operations, taking the place of vulnerable transports in situations where weaponry becomes more important than payload. The craft can function on the ground or in space, but its spheroid design limits its ability to maneuver in atmosphere.

Type: Military Spheroid
Use: Assault ship
Tech: Standard
Introduced: 2655

Mass: 3,000 tons
Dimensions:
Length: 69 meters
Width: 69 meters
Height: 61.5 meters

Fuel: 300 tons (1,800)
Tons/Burn-day: 1.84
Safe Thrust: 4
Maximum Thrust: 6

Armor:
Fore: 36
Side: 34
Aft: 23

Heat Sinks: 113

Weapons				**Range Values**		
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	PPC	10	1	1	—	—
Nose	LRM	6	1	1	1	—
Nose	AC	1	1	1	—	—
Nose	Laser	6	1	—	—	—
FL	PPC	10	1	1	—	—
FL	LRM	6	1	1	1	—
FL	Laser	14	2	1	—	—
FR	PPC	10	1	1	—	—
FR	LRM	6	1	1	1	—
FR	Laser	14	2	1	—	—
AL	PPC	20	2	2	—	—
AL	AC	4	2	2	—	—
AL	SRM	8	2	—	—	—
AL	Laser	12	2	—	—	—
AR	PPC	20	2	2	—	—
AR	AC	4	2	2	—	—
AR	SRM	8	2	—	—	—
AR	Laser	12	2	—	—	—
Aft	LRM	6	1	1	1	—
Aft	Laser	22	3	2	—	—

Cargo: 725 tons
Bay 1: Infantry 1 Door
Bay 2: Fighters (2) 2 Doors
Bay 3: Cargo 2 Doors

Crew: 30
Marines: 90
Marine Points: 90

Cost: 200,000,000 C-bills (new)
Revenue/Mission: 1,000,000 C-bills

ACHILLES

Designed specifically to engage targets from space, this lethal DropShip can outmaneuver all other DropShips and most heavy fighters. These rare craft can prove the decisive factor in a naval battle.

Type: Military Aerodyne
Use: Assault ship
Tech: Standard
Introduced: 2582

Mass: 4,500 tons
Dimensions:
Length: 125 meters
Width: 37.4 meters
Height: 23 meters

Fuel: 300 tons (1,800)
Tons/Burn-day: 1.84
Safe Thrust: 8
Maximum Thrust: 12

Armor:
Fore: 29
Side: 26
Aft: 17

Heat Sinks: 124

Weapons				**Range Values**		
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	PPC	20	2	2	—	—
Nose	LRM	12	2	2	2	—
Nose	Laser	22	3	2	—	—
LW	PPC	10	1	1	—	—
LW	AC	9	3	1	—	—
LW	LRM	12	2	2	2	—
LW	Laser	6	1	—	—	—
RW	PPC	10	1	1	—	—
RW	AC	9	3	1	—	—
RW	LRM	12	2	2	2	—
RW	Laser	6	1	—	—	—
AL	PPC	10	1	1	—	—
AL	AC	3	1	1	—	—
AL	Laser	14	2	1	—	—
AR	PPC	10	1	1	—	—
AR	AC	3	1	1	—	—
AR	Laser	14	2	1	—	—
Aft	AC	7	2	1	1	—
Aft	LRM	4	1	1	1	—
Aft	Laser	6	1	—	—	—

Cargo: 250 tons
Bay 1: Small Craft (2) 1 Door
Bay 2: Fighters (2) 1 Door
Bay 3: Cargo 1 Door

Crew: 30
Marines: 30
Marine Points: 30

Cost: 350,000,000 C-bills (new)
Revenue/Mission: 750,000 C-bills

Notes: May not operate in atmosphere.

FORTRESS

The *Fortress* Class DropShip's lethal weapons and massive armor give it a well deserved reputation for deadliness. However, its considerable offensive power also makes it a prime target for enemy forces. As the *Fortress* becomes increasingly scarce, the Inner Sphere militaries reserve it for battlefield situations where it has strong support from other vessels.

Type: Military Spheroid
Use: Assault ship
Tech: Standard
Introduced: 2613

Fuel: 400 tons (2,000)
Tons/Burn-day: 1.84
Safe Thrust: 3
Maximum Thrust: 5

Mass: 6,000 tons
Dimensions:
Length: 112 meters
Width: 112 meters
Height: 94 meters

Armor:
Fore: 22
Side: 21
Aft: 15

Heat Sinks: 131

Weapons				**Range Values**		
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	PPC	20	2	2	—	—
Nose	AC	2	1	1	—	—
Nose	Laser	22	3	2	—	—
FL	PPC	10	1	1	—	—
FL	LRM	12	2	2	2	—
FL	Laser	25	4	2	—	—
FR	PPC	10	1	1	—	—
FR	LRM	12	2	2	2	—
FR	Laser	25	4	2	—	—
AL	PPC	10	1	1	—	—
AL	AC	8	3	1	—	—
AL	LRM	8	1	1	—	—
AL	SRM	8	2	—	—	—
AL	Laser	6	1	—	—	—
AR	PPC	10	1	1	—	—
AR	AC	8	3	1	—	—
AR	LRM	8	1	1	—	—
AR	SRM	8	2	—	—	—
AR	Laser	6	1	—	—	—
Aft	AC	1	1	1	—	—
Aft	Laser	22	3	2	—	—

Cargo: 175 tons
Bay 1: 'Mechs (12) 1 Door
Bay 2: Vehicles (12 Heavy) 2 Doors
Bay 3: Cargo 2 Doors

Crew: 42
Troops: 135 + 24
Marine Points: 15

Cost: 800,000,000 C-bills (new)
Revenue/Mission: 4,000,000 C-bills

Notes: Equipped with a Long Tom cannon for use when grounded.

LEOPARD CV

This carrier version of the *Leopard* Class DropShip is the Inner Sphere's most common Aerospace transport. Save for minor variations in shape to accomodate its different payload, the *Leopard CV* strongly resembles its 'Mech-transporting sister ship. Primarily used to screen the main fleet from enemy craft, these vessels rarely operate alone. Each *Leopard CV* carries a squadron of fighters.

Type: Military Aerodyne
Use: Fighter carrier
Tech: Standard
Introduced: 2581

Fuel: 123 tons (1,230)
Tons/Burn-day: 1.84
Safe Thrust: 4
Maximum Thrust: 6

Mass: 1,720 tons
Dimensions:
Length: 70.2 meters
Width: 53 meters
Height: 19.8 meters

Armor:
Fore: 14
Side: 13
Aft: 10

Heat Sinks: 80

Weapons				**Range Values**		
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	PPC	20	2	2	—	—
Nose	LRM	6	1	1	1	—
Nose	Laser	9	2	—	—	—
LW	LRM	6	1	1	1	—
LW	Laser	19	2	2	—	—
RW	LRM	6	1	1	1	—
RW	Laser	19	2	2	—	—
Aft	Laser	14	2	1	—	—

Cargo: See **Notes**
Bay 1: Fighters (2) 2 Doors
Bay 2: Fighters (2) 2 Doors
Bay 3: Fighters (2) 2 Doors

Crew: 9
Passengers: 12
Marine Points: 4

Cost: 60,000,000 C-bills (new)
Revenue/Mission: 60,000 C-bills

Notes: Each fighter cubicle removed will provide 150 tons of cargo space.

VENGEANCE

The largest Inner Sphere fighter carrier ever built, the *Vengeance* Class DropShip ranks among the deadliest craft used by the Successor States. It carries forty fighters, virtually guaranteeing aerospace superiority in any engagement. Such a huge fighter complement can lay waste to most targets in a matter of minutes, including the fearsome Clan WarShips. Independent *Vengeance* Class vessels can command a fee no less than five million C-bills, and frequently the vessel's owner can demand whatever figure he chooses.

Type: Military Aerodyne
Use: Fighter carrier
Tech: Standard
Introduced: 2782

Mass: 10,000 tons
Dimensions:
Length: 234 meters
Width: 96 meters
Height: 20 meters

Fuel: 500 tons (2,000)
Tons/Burn-day: 1.84
Safe Thrust: 4
Maximum Thrust: 6

Armor:
Fore: 14
Side: 15
Aft: 18

Heat Sinks: 121
Weapons **Range Values**

Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	Laser	14	2	1	—	—
LW	Laser	14	2	1	—	—
RW	Laser	14	2	1	—	—
AL	PPC	10	1	1	—	—
AL	LRM	12	2	2	2	—
AL	AC	1	1	1	—	—
AL	Laser	20	3	1	—	—
AR	PPC	10	1	1	—	—
AR	LRM	12	2	2	2	—
AR	AC	1	1	1	—	—
AR	Laser	20	3	1	—	—
Aft	AC	1	1	1	—	—
Aft	LRM	4	1	1	1	—
Aft	Laser	6	1	—	—	—

Cargo: 250 tons
Bay 1: Fighters (20)4 Doors
Bay 2: Fighters (20)4 Doors
Bay 3: Cargo1 Door

Crew: 9
Passengers: 100
Marine Points: 14

Cost: 350,000,000 C-bills (new)
Revenue/Mission: 5,000,000+ C-bills

Notes: May not operate in atmosphere.

BUCCANEER

Though originally intended for military use, the *Buccaneer* design never saw active service. By the 31st century the *Buccaneer* had became the Inner Sphere's most common civilian cargo transport.

Type: Civilian Aerodyne
Use: Cargo carrier
Tech: Standard
Introduced: 2708

Mass: 3,500 tons
Dimensions:
Length: 136.5 meters
Width: 127.5 meters
Height: 30 meters

Fuel: 160 tons (960)
Tons/Burn-day: 2.82
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 7
Side: 6
Aft: 5

Heat Sinks: 58

Weapons **Range Values**

ArcType	**Heat**	**S**	**M**	**L**	**Extreme**	
Nose	Laser	8	1	1	—	—
Nose	LRM	2	1	1	1	—
LW	Laser	6	1	—	—	—
RW	Laser	6	1	—	—	—
Aft	Laser	6	1	—	—	—

Cargo: 2,562 tons
Bay 1: Cargo2 Doors
Bay 2: NA
Bay 3: NA

Crew: 12
Passengers: 0
Marine Points: 2

Cost: 100,000,000 C-bills (new)
Revenue/Mission: 256,000 C-bills

MULE

First constructed during the heyday of the Star League, the large *Mule* Class DropShip remains a widely used civilian vessel within the Successor States. Popular even among the Clans, it enjoys frequent use by their merchant caste.

Type: Civilian Spheroid
Use: Cargo carrier
Tech: Standard
Introduced: 2737

Mass: 11,200 tons
Dimensions:
Length: 158 meters
Width: 158 meters
Height: 100.4 meters

Fuel: 319 tons (1,276)
Tons/Burn-day: 4.22
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 7
Side: 8
Aft: 6

Heat Sinks: 58
Weapons **Range Values**

ArcType	**Heat**	**S**	**M**	**L**	**Extreme**	
Nose	AC	1	1	1	1	—
Nose	Laser	3	1	—	—	—
Nose	Point	2	1	—	—	—
FL	SRM	4	1	—	—	—
FL	Laser	6	1	—	—	—
FR	SRM	4	1	—	—	—
FR	Laser	6	1	—	—	—
AL	Laser	11	1	1	—	—
AR	Laser	11	1	1	—	—
Aft	Laser	11	1	1	—	—

Cargo: *8,450 tons*
Bay 1: Cargo2 Doors
Bay 2: Cargo2 Doors
Bay 3: NA

Crew: 20
Passengers: 0
Marine Points: 4

Cost: 300,000,000 C-bills (new)
Revenue/Mission: 854,000 C-bills

MAMMOTH

The largest DropShips capable of planetary landings, *Mammoth* Class vessels serve as the bulk transports of the Inner Sphere. Among their other uses, some *Mammoth* DropShips act as diatomic hydrogen fuel tankers. Most *Mammoths* belong to governments or large corporations; few captains own them independently.

Type: Civilian Spheroid
Use: *Cargo carrier*
Tech: Standard
Introduced: 2808

Mass: 52,000 tons
Dimensions:
Length: 277 meters
Width: 277 meters
Height: 170.6 meters

Fuel: 420 tons (840)
Tons/Burn-day: 8.37
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 8
Side: 6
Aft: 5

Heat Sinks: 153

Weapons				**Range Values**		
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	Laser	8	1	1	—	—
AL	Laser	14	2	1	—	—
AR	Laser	14	2	1	—	—
Aft	Point	2	1	—	—	—

Cargo: 40,110 tons
Bay 1: Small Craft (4)4 Doors
Bay 2: Cargo3 Doors
Bay 3: Cargo3 Doors

Crew: 35
Passengers: 0
Marine Points: 7

Cost: 1,200,000,000 C-bills (new)
Revenue/Mission: 4,011,000 C-bills

BEHEMOTH

The largest DropShip ever constructed, the *Behemoth* outweighs several JumpShip classes. Its massive size prevents it from engaging in planetary landings or atmospheric operations, and most DropShip captains even consider gravity-well operations risky.

Type: Civilian Spheroid
Use: Cargo carrier
Tech: Standard
Introduced: 2782

Mass: 100,000 tons
Dimensions:
Length: 200 meters
Width: 200
Height: 275 meters

Fuel: 600 tons (1,200)
Tons/Burn-day: 8.83
Safe Thrust: 2
Maximum Thrust: 3

Armor:
Fore: 5
Side: 5
Aft: 6

Heat Sinks: 158

Weapons				**Range Values**		
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
FL	Laser	14	2	1	—	—
FR	Laser	14	2	1	—	—
AL	Laser	14	2	1	—	—
AR	Laser	14	2	1	—	—
Aft	Laser	6	1	—	—	—

Cargo: 84,195 tons
Bay 1: Small Craft (4) 2 Doors
Bay 2: Cargo 10 Doors
Bay 3: Cargo 10 Doors

Crew: 50
Passengers: 0
Marine Points: 14

Cost: 2,000,000,000 C-bills (new)
Revenue/Mission: 8,400,000 C-bills

Notes: May not operate in atmosphere.

MONARCH

The *Monarch* Class vessel is one of a handful of DropShips built to carry passengers. Although Classed as an aerodyne, the *Monarch* has no wings. Instead, it uses its fuselage to give it aerodynamic lift.

Type: Civilian Aerodyne
Use: Liner
Tech: Standard
Introduced: 2759

Mass: 5,000 tons
Dimensions:
Length: 169 meters
Width: 104 meters
Height: 30 meters

Fuel: 112 tons (560)
Tons/Burn-day: 3.37
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 5
Side: 4
Aft: 3

Heat Sinks: 76
Weapons: None

Cargo: 900 tons
Bay 1: Passengers
Bay 2: Cargo 2 Doors
Bay 3: NA

Crew: 34
Passengers: 266
Marine Points: 6

Cost: 200,000,000 C-bills (new)
Revenue/Mission: 228,000 C-bills

STAR LEAGUE DROPSHIPS

CONFEDERATE

The *Confederate* served as the Star League Defense Force's standard BattleMech transport. Many disappeared from the Inner Sphere in the Exodus of 2784, but a sizable number remained with the SLDF units who opted to stay. However, the drive system's sophisticated technology caused numerous maintenance problems that contributed to a steady decline in the number of *Confederate* vessels. As of 3056, the Inner Sphere militaries between them only field two *Confederate* DropShips. The number used by the Clans remains unknown.

Type: Military Spheroid
Use: 'Mech carrier
Tech: Star League
Introduced: 2602

Fuel: 135 tons (2,700)
Tons/Burn-day: 1.65
Safe Thrust: 4
Maximum Thrust: 6

Mass: 1,860 tons
Dimensions:
Length: 36.4 meters
Width: 36.4 meters
Height: 32.6 meters

Armor:
Fore: 22
Side: 19
Aft: 13

Heat Sinks: 92

Weapons

Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	Laser	22	3	2	—	—
FL	Laser	39	5	3	—	—
FR	Laser	39	5	3	—	—
AL	Laser	25	3	2	—	—
AR	Laser	25	3	2	—	—
Aft	Laser	22	3	2	—	—

(Range Values: S, M, L, Extreme)

Cargo: 20 tons

Bay 1: 'Mechs (2)	2 Doors
Bay 2: 'Mechs (2)	2 Doors
Bay 3: 'Mechs (2) or fighters (2)	2 Doors

Crew: 10
Passengers: 6
Marine Points: 4

TITAN

Though 2,000 tons heavier than the *Vengeance* Class carrier, the *Titan* carries only 18 fighters. However, the vessel more than makes up for that deficiency with a huge array of weaponry, outgunning even the deadly *Achilles* Class DropShip. The *Titan*'s massive firepower made this class of vessel a prime target during the Succession Wars, and none have survived to the present day in the Inner Sphere.

Type: Military Aerodyne
Use: Fighter carrier
Tech: Star League
Introduced: 2647

Fuel: 480 tons (2,880)
Tons/Burn-day: 1.84
Safe Thrust: 5
Maximum Thrust: 8

Mass: 12,000 tons
Dimensions:
Length: 250 meters
Width: 162 meters
Height: 47.2 meters

Armor:
Fore: 25
Side: 25
Aft: 26

Heat Sinks: 185

Weapons

Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	AC	21	6	—	—	—
Nose	LRM	18	4	4	4	—
Nose	Laser	80	8	8	—	—
LW	AC	14	4	—	—	—
LW	LRM	6	1	1	1	—
LWLaser	44	5	3	—	—	
RW	AC	14	4	—	—	—
RW	LRM	6	1	1	1	—
RW	Laser	44	5	3	—	—
Aft	AC	7	2	—	—	—
Aft	LRM	6	1	1	1	—
Aft	Laser	12	2	—	—	—

(Range Values: S, M, L, Extreme)

Cargo: 35 tons

Bay 1: Fighters (6)	2 Doors
Bay 2: Fighters (6)	2 Doors
Bay 3: Fighters (6)	2 Doors

Crew: 38
Passengers: 22
Marine Points: 8

CLAN DROPSHIPS

BROADSWORD

In several Clans, the *Broadsword* Class has replaced the *Leopard* as the favored BattleMech transport. Superficially similar to the older *Leopard* design, the *Broadsword* boasts superior weaponry, maneuverability, and armored protection, but lacks integral fighter support. However, the range of the DropShip's weaponry allows it to keep most attacking fighters at arms' length.

Type: Military Aerodyne
Use: 'Mech carrier
Tech: Clan
Introduced: 2979

Fuel: 123 tons (1,230)
Tons/Burn-day: 1.84
Safe Thrust: 5
Maximum Thrust: 8

Mass: 1,850 tons
Dimensions:
Length: 80 meters
Width: 43 meters
Height: 23 meters

Armor:
Fore: 19
Side: 16
Aft: 12

Heat Sinks: 158

Weapons

Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	Laser	24	2	2	2	2
Nose	Pulse	4	1	1	—	—
Nose	LRM	6	2	2	2	—
Nose	PPC	30	3	3	3	—
Nose	Point	1	1	—	—	—
LW	LRM	12	3	3	3	—
LW	Pulse	14	2	2	—	—
RW	LRM	12	3	3	3	—
RW	Pulse	14	2	2	—	—
Aft	Pulse	4	1	1	—	—
Aft	SRM	8	2	2	—	—

(Range Values: S, M, L, Extreme)

Cargo: 25 tons
Bay 1: 'Mech (2) 2 Doors
Bay 2: 'Mech (2) 2 Doors
Bay 3: 'Mech (1) 1 Door

Crew: 5
Passengers: 0
Marine Points: 13

CARRIER

Because the Clan rules of engagement consider DropShips as noncombatants, Clan DropShips no longer carry their own fighters. The Clans still wished to use fighters in other roles, particularly the often small but fierce skirmishes common to Clan trials, but lacked suitably sized transports. In 2882, Clan Snow Raven unveiled the *Carrier* Class DropShip. Within a century, this design had found its way into the fighting arm of every Clan.

Type: Military Aerodyne
Use: Fighter carrier
Tech: Clan
Introduced: 2882

Mass: 5,000 tons
Dimensions:
Length: 170 meters
Width: 93 meters
Height: 43 meters

Fuel: 337 tons (2,022)
Tons/Burn-day: 1.84
Safe Thrust: 5
Maximum Thrust: 8

Armor:
Fore: 18
Side: 15
Aft: 16

Heat Sinks: 152

Weapons			**Range Values**			
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
Nose	SRM	24	7	7	—	—6
Nose	Point	6	3	—	—	—6
Nose	Laser	60	5	5	5	55
RW	Pulse	30	3	3	3	—3
RW	Point	—	2	—	—	——
RW	Laser	25	4	4	—	—5
RW	AC	2	3	3	3	—2
LW	Pulse	30	3	3	3	—3
LW	Point	—	2	—	—	——
LW	Laser	25	4	4	—	—5
LW	AC	2	3	3	3	—2
RW (Aft)	AC	8	5	5	3	—4
RW (Aft)	Laser	9	2	—	—	—3
LW (Aft)	AC	8	5	5	3	—4
LW (Aft)	Laser	9	2	—	—	—3
Aft	AC	28	6	6	—	—2
Aft	Laser	60	5	5	5	55

Cargo: 724 tons
Bay 1: Fighters (5) 2 Doors
Bay 2: Fighters (5) 2 Doors
Bay 3: Cargo 1 Door

Crew: 17
Passengers: 20
Marine Points: 12

JUMPSHIPS

SCOUT

The *Scout* is the smallest JumpShip widely used in the Inner Sphere. Designed for extended independent operations, the *Scout* has comfortable quarters and a sizable medical bay. To compensate for the lack of a grav deck, the *Scout* produces its gravity through the acceleration method, also known as gravity maneuvering.

Tech: Standard
Introduced: 2712

Mass: 79,000 tons
Length: 273 meters
Sail Diameter: 890 meters

Fuel: 46 tons (184)
Tons/Burn-day: 9.77
Station-keeping Thrust:
0.2G (0.4 Thrust)

Armor:
Fore: 6
Fore-Side: 6
Aft-Side: 5
Aft: 4

Sail Integrity: 3
KF Drive Integrity: 3

Heat Sinks: 158
Weapons: None

Cargo: 450 tons
Bay 1: Cargo 1 Door
Bay 2: Small Craft (1) 1 Door
Bay 3: NA
DropShip Capacity: 0
Grav Deck: None

Crew: 18
Passengers: 0
Marine Points: 6

Cost: 300,000,000 C-bills

HUNTER

Developed by Clan Ghost Bear, the *Hunter* is a scout JumpShip designed to seek out enemy fleets and to explore new star systems. The original design did not incorporate a lithium-fusion battery, seriously impairing its usefulness. In the mid-30th century, the Clans upgraded most of these vessels to carry the advanced lithium-fusion system, distributing the few remaining unmodified craft to freebirth units. The fleet belonging to the mercenary unit Wolf's Dragoons contains several *Hunters,* which may or may not be the upgraded versions.

Tech: Clan
Introduced: 2832

Mass: 95,000 tons
Length: 302 meters
Sail Diameter: 852 meters

Fuel: 400 tons (800)
Tons/Burn-day: 9.77
Station-keeping Thrust:
0.1G (0.2 Thrust)

Armor:
Fore: 8
Fore-Side: 6
Aft-Side: 6
Aft: 8

Sail Integrity: 3
KF Drive Integrity: 3

Heat Sinks: 186

Weapons

Arc	Type	Heat	S	M	L	Extreme
			Range Values			
Nose	Pulse	10	1	1	1	—
Nose	SRM	3	1	1	—	—
Nose	Point	1	1	—	—	—
FL	Pulse	20	2	2	2	—
FR	Pulse	20	2	2	2	—
AL	SRM	6	2	2	—	—
AR	SRM	6	2	2	—	—

Cargo: 1,021 tons
Bay 1: Cargo 1 Door
Bay 2: NA
Bay 3: NA
DropShip Capacity: 1
Grav Deck: None

Crew: 10
Passengers: 10
Marine Points: 8

Cost: NA

Notes: *Clan reconnaissance vessel. Usually carries a K1C DropShuttle or a DropShip for planetary landings.*

MERCHANT

As its name implies, this vessel has become the mainstay of trader fleets throughout known space. The current incarnation of this venerable design carries half the crew of the original, having converted a large section of the old crew quarters into a cargo hold.

Tech: Standard
Introduced: 2503

Mass: 120,000 tons
Length: 320 meters
Sail Diameter: 950 meters

Fuel: 85 tons (85)
Tons/Burn-day: 19.75
Station-keeping Thrust:
0.1G (0.2 Thrust)

Armor:
Fore: 4
Fore-Side: 5
Aft-Side: 4
Aft: 4

Sail Integrity: 3
KF Drive Integrity: 3

Heat Sinks: 98
Weapons: None

Cargo: 600 tons
Bay 1: Cargo 3 Doors
Bay 2: Small Craft (2) 1 Door
Bay 3: NA
DropShip Capacity: 2
Grav Deck: 1 (40-meter diameter)

Crew: 20
Passengers: 0
Marine Points: 7

Cost: 400,000,000 C-bills

INVADER

The most common JumpShip in both the Successor States and the Clan occupation zones, the *Invader* accounts for slightly more than 45 percent of all registered JumpShips. Designed to carry three DropShips, vessels of this class engage in civilian and military operations, though state armies and mercenaries between them use roughly 70 percent of the existing *Invaders*.

Tech: Standard
Introduced: 2631

Mass: 152,000 tons
Length: 505 meters
Sail Diameter: 1,024 meters

Fuel: 50 tons (50)
Tons/Burn-day: 19.76
Station-keeping Thrust:
0.1G (0.2 Thrust)

Armor:
Fore: 7
Fore-Side: 7
Aft-Side: 6
Aft: 5

Sail Integrity: 4
KF Drive Integrity: 4

Heat Sinks: 116
Weapons

Arc	Type	Heat	S	M	L	Extreme
			Range Values			
LF	PPC	10	1	1	—	—
RF	PPC	10	1	1	—	—
Alternate Configuration						
LF	Laser	8	1	1	—	—
RF	Laser	8	1	1	—	—

Cargo: 1,000 tons
Bay 1: Cargo 1 Door
Bay 2: Small Craft (2) 2 Doors
Bay 3: NA
DropShip Capacity: 3
Grav Deck: 1 (65-meter diameter)

Crew: 24
Passengers: 0
Marine Points: 9

Cost: 500,000,000 C-bills

STAR LORD

The massive *Star Lord* JumpShip serves almost exclusively as a military vessel. Compared to the tiny quarters aboard most JumpShips or the six DropShips it carries, the *Star Lord* has luxurious living space. In addition to its crew quarters, the *Star Lord* carries an additional 50 large, comfortable staterooms to allow DropShip crews a respite from their cramped facilities.

Tech: Standard
Introduced: 2590

Mass: 274,000 tons
Length: 660 meters
Sail Diameter: 1,140 meters

Fuel: 100 tons (50)
Tons/Burn-day: 39.52
Station-keeping Thrust:
0.1G (0.2 Thrust)

Armor:
Nose: 6
Fore-Side: 6
Aft-Side: 5
Aft: 4

Sail Integrity: 4
KF Drive Integrity: 5

Heat Sinks: 130
Weapons: None

Cargo: 3,000 tons
Bay 1: Cargo 1 Door
Bay 2: Small Craft (4) 2 Doors
Bay 3: NA
DropShip Capacity: 6
Grav Deck: 1 (110-meter diameter)

Crew: 30
Passengers: 50
Marine Points: 12

Cost: 750,000,000 C-bills

MONOLITH

The largest craft used by Successor State militaries, *Monolith* Class JumpShips are second in size only to Clan WarShips and similar vessels under construction in the Inner Sphere. Despite the *Monolith*'s relative rarity, Inner Sphere shipyards have continued to construct large numbers of spare parts, enabling this class of JumpShip to remain in service far longer than other JumpShips.

Tech: Standard
Introduced: 2776

Mass: 380,000 tons
Length: 750 meters
Sail Diameter: 1,270 meters

Fuel: 60 tons (30)
Tons/Burn-day: 39.53
Station-keeping Thrust: 0.1G (0.2 Thrust)

Armor:
Fore: 11
Fore-Side: 10
Aft-Side: 11
Aft: 8

Sail Integrity: 5
KF Drive Integrity: 7

Heat Sinks: 137
Weapons: None

Cargo: 7,000 tons
Bay 1: Cargo 1 Door
Bay 2: Small Craft (6) 2 Doors
Bay 3: NA
DropShip Capacity: 9
Grav Deck: 2 (both 105-meter diameter)

Crew: 30
Passengers: 0
Marine Points: 12

Cost: 1,000,000,000 C-bills

WARSHIPS

Note: FTR = capable of opposing fighters and small craft. Each class of WarShip has a Clan version, equipped with the lithium-fusion battery system. Because Clan WarShips deploy battle-suited elementals as marines,. multiply each Clan vessel's Marine Points by 5. Other differences between Clan and Inner Sphere WarShips are noted in the accompanying text.

BUG-EYE

The Star League Defense Force developed the *Bug-Eye* as a reconnaissance vessel, using techniques eventually lost to the ravages of war. Smaller than many DropShips, *Bug-Eye* vessels could easily blend with civilian DropShip traffic. All the WarShips of this class either succumbed in battle during the Amaris Coup or joined General Kerensky's Exodus from the Inner Sphere. Though the Clans possess *Bug-Eye* WarShips, their style of honorable warfare does not permit them to use surveillance vessels. The Clans appear to have included no *Bug-Eye*s in the invasion fleet.

Tech: Star League
Introduced: 2620
Number in Class: 170 (estimated)

Mass: 6,100 tons
Length: 129 meters
Sail Diameter: 86 meters

Fuel: 95 tons (1,520)
Tons/Burn-day: 2.82
Safe Thrust: 5
Maximum Thrust: 8

Armor:
Fore: 32
Fore-Side: 28
Aft-Side: 28
Aft: 22

Sail Integrity: 3
KF Drive Integrity: 2

Heat Sinks: 65

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**FTR**
Nose	PPC	10	1	1	—	—	Y
LW	Laser	8	1	1	—	—	Y
RW	Laser	8	1	1	—	—	Y
Aft	AC	7	2	—	—	—	Y

Cargo: 10 tons
Bay 1: Cargo 1 Door
Bay 2: NA
Bay 3: NA
DropShip Capacity: 0
Grav Deck: None.

Crew: 20
Passengers: 0
Marine Points: 7

Cost: NA

Notes: Surveillance vessel. Jumpsail is detachable.

VINCENT (CORVETTE)

Like most other corvettes, the *Vincent* Class serves as a patrol vessel and can outfight most pirate craft. Many of the Star League's 500 *Vincent*s were destroyed in the campaign to liberate Terra from Amaris forces, but a number disappeared in the Exodus. They have since turned up in the Clan invasion fleet.

Tech: Star League
Introduced: 2432
Number in Class: 530

Mass: 412,000 tons
Length: 402 meters
Sail Diameter: 1,005 meters

Fuel: 2,000 tons (1,000)

Tons/Burn-day: 39.52
Safe Thrust: 4
Maximum Thrust: 6

Armor:
Fore: 16
Fore-Side: 19
Aft-Side: 19
Aft: 16

Sail Integrity: 3
KF Drive Integrity: 10

Heat Sinks: 490

Weapons — **Range Values**

Arc	Type	Heat	S	M	L	Extreme	FTR
Nose	Bcuda	20	2	2	2	2	Y
FL	Laser	16	2	2	—	—	
FL	NAC	30	1—	1—	1—	—	
FR	Laser	16	2	2	—	—	
FR	NAC	30	1—	1—	1—	—	
LBS	Laser	16	2	2	—	—	
LBS	NAC	30	1—	1—	1—	—	
RBS	Laser	16	2	2	—	—	
RBS	NAC	30	1—	1—	1—	—	

Cargo: 2,000 tons

Bay 1: Cargo	1 Door
Bay 2: Fighters (6)	1 Door
Bay 3: Small Craft (4)	1 Door

DropShip Capacity: 0
Grav Deck: 1 (60-meter diameter)

Crew: 113
Passengers: 0
Marine Points: 40

Availability: NA

Notes: Jumpsail is detachable.

ESSEX (DESTROYER)

The first destroyers to bear the *Essex* name saw service with the Terran Hegemony, giving way to the Star League *Essex* Class destroyers in that empire's heyday. During the Reunification War of the late 26th century and the Periphery rebellion on New Vandenburg in 2765, this swift WarShip often served in the thick of the action. After the New Vandenburg revolt, many *Essex* Class vessels provided SLDF garrisons with their only link to the Inner Sphere. Currently, vessels of this class serve in the Steel Viper and Smoke Jaguar fleets.

Tech: Star League
Introduced: 2711
Number in Class: 300

Mass: 612,000 tons
Length: 615 meters
Sail Diameter: 1,120 meters

Fuel: 1,200 tons (600)
Tons/Burn-day: 39.52
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 37
Fore-Side: 37
Aft-Side: 37
Aft: 35

Sail Integrity: 4
KF Drive Integrity: 15

Heat Sinks: 1,492

Weapons — **Range Values**

Arc	Type	Heat	S	M	L	Extreme	FTR
Nose	NAC	120	40	40	40	—	
FL	NAC	180	60	60	60	—	
FL	Bcuda	10	2	2	2	2	Y
FR	NAC	180	60	60	60	—	
FR	Bcuda	10	2	2	2	2	Y
LBS	NLas	104	7	7	7	—	
LBS	NPPC	270	18	18	18	18	
RBS	NLas	104	7	7	7	—	
RBS	NPPC	270	18	18	18	18	
AL	NLas	104	7	7	7	—	
AL	NPPC	270	18	18	18	18	
AR	NLas	104	7	7	7	—	
AR	NPPC	270	18	18	18	18	
Aft	NAC	120	40	40	40	—	
Aft	NAC	120	40	40	40	—	
Aft	Bcuda	10	2	2	2	2	Y

Cargo: 3,200 tons

Bay 1: Cargo	1 Door
Bay 2: Fighters (6)	1 Door
Bay 3: Small Craft (4)	1 Door

DropShip Capacity: 0
Grav Deck: 1 (55-meter diameter)

Crew: 208
Passengers: 20
Marine Points: 70

Cost: NA

Notes: Fighters may use small-craft bay door.

LOLA III (DESTROYER)

Among the most heavily armed and armored destroyers, the relatively inexpensive *Lola* Class WarShip was constructed in great numbers. They served as picket ships in the navy of the Terran Hegemony and as escorts in various Periphery conflicts during the Star League era. A large number survived the campaign to liberate Terra, and ultimately left the Inner Sphere in the Exodus of 2784. All Clans save Wolf and Nova Cat include these huge vessels in their fleets.

Tech: Star League
Introduced: 2662
Number in Class: 470

Mass: 678,000 tons
Length: 653 meters
Sail Diameter: 1,100 meters

Fuel: 1,200 tons (600)
Tons/Burn-day: 39.52
Safe Thrust: 4
Maximum Thrust: 6

Armor:
Fore: 48
Fore-Side: 48
Aft-Side: 48
Aft: 48

Sail Integrity: 5
KF Drive Integrity: 20

Heat Sinks: 1,485

Weapons		Range Values				
ArcType	Heat	S	M	L	Extreme	FTR
Nose	Nlas	170	11	11	11	11
FL	Nlas	255	17	17	17	17
FLShark	15	3	3	3	3	Y
FR	Nlas	255	17	17	17	17
FRShark	15	3	3	3	3	Y
LBS	NAC	120	40	40	40	—
LBS	NLas	70	5	5	5	5
LBSBcuda	20	4	4	4	4	Y
RBS	NAC	120	40	40	40	—
RBS	NLas	70	5	5	5	5
RBSBcuda	20	4	4	4	4	Y
AL	NAC	120	40	40	40	—
AL	NLas	70	5	5	5	5
AR	NAC	120	40	40	40	—
AR	NLas	70	5	5	5	5
Aft	NLas	340	22	22	22	22
AftBcuda	10	2	2	2	2	Y

Cargo: 4,100 tons

Bay 1: Cargo	1 Door
Bay 2: Fighters (6)	1 Door
Bay 3: Small Craft (4)	1 Door

DropShip Capacity: 0
Grav Deck: None.

Crew: 154
Passengers: 5
Marine Points: 50

Cost: NA

Notes: Fighters may use small-craft bay door.

AEGIS (HEAVY CRUISER)

An old design even when the sainted Cameron family formed the Star League, the first *Aegis* Class cruiser saw service in 2372. These vessels served until 2531, when Inner Sphere navies phased them out in favor of the *Avatar* Class cruiser. Mothballed rather than scrapped, the retired vessels orbited between Terra and Mars. When the Reunification War placed too great a strain on the navy of the nascent SLDF, the Star League's FIrst Lord Ian Cameron ordered the *Aegis* cruisers refitted. Surprisingly, many *Aegis* Class vessels survived the fall of the Star League and departed with General Kerensky. Currently, most of these vessels serve with Clan Jade Falcon.

Tech: Star League
Introduced: 2372*
Number in Class:
106 (70 refitted for the SLDF)

Fuel: 1,000 tons (500)
Tons/Burn-day: 39.52
Safe Thrust: 2
Maximum Thrust: 3

Sail Integrity: 5
KF Drive Integrity: 20

Heat Sinks: 4,092

Mass: 745,000 tons
Length: 725 meters
Sail Diameter: 1,308 meters

Armor:
Fore: 91
Fore-Side: 101
Aft-Side: 101
Aft: 91

Weapons		Range Values				
ArcType	Heat	S	M	L	Extreme	FTR
Nose	NAC	240	70	70	—	—
FL	NAC	240	70	70	—	—
FLShark	45	9	9	9	9	Y
FR	NAC	240	70	70	—	—
FRShark	45	9	9	9	9	Y
LBS	NAC	240	70	70	—	—
LBS	NAC	240	70	70	—	—
LBS	NAC	180	60	60	60	—
LBS	NAC	180	60	60	60	—
LBS	NLas	255	17	17	17	17
LBSBcuda	10	2	2	2	2	Y
RBS	NAC	240	70	70	—	—
RBS	NAC	240	70	70	—	—
RBS	NAC	180	60	60	60	—
RBS	NAC	180	60	60	60	—
RBS	NLas	255	17	17	17	17
RBSBcuda	10	2	2	2	2	Y
AL	NAC	180	60	60	60	—
AL	NAC	180	60	60	60	—
AL	NLas	255	17	17	17	17
ALBcuda	10	2	2	2	2	Y
AR	NAC	180	60	60	60	—
AR	NAC	180	60	60	60	—
AR	NLas	255	17	17	17	17
ARBcuda	10	2	2	2	2	Y
Aft	NAC	240	70	70	—	—
Aft	NAC	240	70	70	—	—
Aft	NLas	280	18	18	18	18
AftShark	30	6	6	6	6	Y

Cargo: 11,600 tons

Bay 1: Cargo	1 Door
Bay 2: Fighters (6)	1 Door
Bay 3: Small Craft (4)	1 Door

DropShip Capacity: 4
Grav Deck: 2 (Both 90-meter diameter)

Crew: 180
Passengers: 35
Marine Points: 60

Cost: NA

Notes: Fighters may use small-craft bay door.
*Originally designed in 2372, all were refitted in 2582. Has lithium-fusion battery system.

CONGRESS (FRIGATE)

Designed as convoy escorts and reconnaissance craft, *Congress* Class frigates are capable of extended operations. Despite the maximum use of every cubic centimeter of a *Congress* Class ship, the vessels are surprisingly comfortable and easy to maintain. Their lack of fighter support is their sole weakness, easily remedied by the fighter complements of the DropShips they carry. *Congress* Class vessels have appeared in the Clan fleet, and the frigate *Fire Rose* has seen action against Inner Sphere forces. The infamous Red Corsair's band used *Congress* frigates against the Inner Sphere during their supposed pirate campaign. The Clans continue to claim that the renegade group came from the so-called bandit caste.

Tech: Star League
Introduced: 2542
Number in Class: 200

Mass: 760,000 tons
Length: 703 meters
Sail Diameter: 1,207 meters

Fuel: 2,000 tons (1,000)
Tons/Burn-day: 39.52
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 72
Fore-Side: 72
Aft-Side: 72
Aft: 75

Sail Integrity: 5
KF Drive Integrity: 20

Heat Sinks: 1,208

Weapons Range Values

ArcType	Heat	S	M	L	Extreme	FTR
NoseWhale	20	4	4	4	4	Y
FL	NAC	200	60	60	60	—
FR	NAC	200	60	60	60	—
LBS	NAC	60	20	20	20	—
LBSLaser	16	1	1	—	—	Y
LBSShark	15	3	3	3	3	Y
RBS	NAC	60	20	20	20	—
RBSLaser	16	1	1	—	—	Y
RBSShark	15	3	3	3	3	Y
AL	NAC	60	20	20	20	—
AL	NAC	100	30	30	30	—
ALLaser	16	1	1	—	—	Y
AR	NAC	60	20	20	20	—
AR	NAC	100	30	30	30	—
ARLaser	16	1	1	—	—	Y
Aft	NAC	200	60	60	60	—

Cargo: 23,150 tons

Bay 1: Cargo	1 Door
Bay 2: Fighters (6)	1 Door
Bay 3: Small Craft (4)	1 Door

DropShip Capacity: 2
Grav Deck: 1 (90-meter diameter)

Crew: 256
Passengers: 55
Marine Points: 85

Cost: NA

BLACK LION (BATTLECRUISER)

Imposing in appearance, the *Black Lion* Class WarShip often formed the core of a Star League battle group. They also engaged in independent operations, frequently as convoy escorts where their massive armor and armament made them formidable protectors. Vulnerable to fighter attack like most WarShips, many *Black Lions* did not survive the various wars in the Periphery. By 2784, less than a dozen *Black Lion* WarShips remained to accompany the Exodus fleet.

Tech: Star League
Introduced: 2691
Number in Class: 62

Mass: 802,000 tons
Length: 772 meters
Sail Diameter: 1,433 meters

Fuel: 1,000 tons (500)
Tons/Burn-day: 39.52
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 151
Fore-Side: 168
Aft-Side: 168
Aft: 151

Sail Integrity: 5
KF Drive Integrity: 20

Heat Sinks: 3,675

Weapons Range Values

Arc	Type	Heat	S	M	L	Extreme	FTR
Nose	NAC	200	60	60	60	—	
Nose	NAC	200	60	60	60	—	
FL	Shark	60	12	12	12	12	Y
FL	Bcuda	10	2	2	2	2	Y
FL	NAC	200	60	60	60	—	
FL	NAC	200	60	60	60	—	
FR	Shark	60	12	12	12	12	Y
FR	Bcuda	10	2	2	2	2	Y
FR	NAC	200	60	60	60	—	
FR	NAC	200	60	60	60	—	
LBS	NAC	180	60	60	60	—	
LBS	NAC	180	60	60	60	—	
LBS	NAC	120	40	40	40	—	
LBS	Bcuda	10	2	2	2	2	Y
RBS	NAC	180	60	60	60	—	
RBS	NAC	180	60	60	60	—	
RBS	NAC	120	40	40	40	—	
RBS	Bcuda	10	2	2	2	2	Y
AL	NAC	180	60	60	60	—	
AL	NAC	180	60	60	60	—	
AL	NAC	120	40	40	40	—	
AL	Bcuda	10	2	2	2	2	Y
AR	NAC	180	60	60	60	—	
AR	NAC	180	60	60	60	—	
AR	NAC	120	40	40	40	—	
AR	Bcuda	10	2	2	2	2	Y
Aft	NAC	200	60	60	60	—	
Aft	NAC	200	60	60	60	—	
Aft	NAC	200	60	60	60	—	

Cargo: 11,315 tons

Bay 1: Cargo	1 Door
Bay 2: Fighters (18)	4 Doors
Bay 3: Small Craft (10)	2 Doors

DropShip Capacity: 4
Grav Deck: 2 (65- and 85-meter diameters)

Crew: 208
Passengers: 38
Marine Points: 70

Cost: NA

SOVETSKII SOYUZ (HEAVY CRUISER)

Many officers consider the *Sovetskii Soyuz* a battlecruiser because of its devastating weapons array. Its armor protection remains relatively light, but this weakness does not appear to trouble most commanders.

Tech: Star League
Introduced: 2742
Number in Class: 400

Mass: 823,000 tons
Length: 803 meters
Sail Diameter: 1,250 meters

Fuel: 1,400 tons (700)
Tons/Burn-day: 39.52
Safe Thrust: 2
Maximum Thrust: 3

Sail Integrity: 5
KF Drive Integrity: 25

Armor:
Fore: 74
Fore-Side: 88
Aft-Side: 88
Aft: 68

Heat Sinks: 2,150

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**FTR**
Nose	Whale	40	8	8	8	8	Y
LS	NLas	210	14	14	14	14	
LS	Bcuda	10	2	2	2	2	Y
RS	NLas	210	14	14	14	14	
RS	Bcuda	10	2	2	2	2	Y
LBS	NAC	180	60	60	60	—	
LBS	NPPC	270	18	18	18	18	
RBS	NAC	180	60	60	60	—	
RBS	NPPC	270	18	18	18	18	
AL	NAC	180	60	60	60	—	
AL	NPPC	270	18	18	18	18	
AL	Bcuda	10	2	2	2	2	Y
AR	NAC	180	60	60	60	—	
AR	NPPC	270	18	18	18	18	
AR	Bcuda	10	2	2	2	2	Y

Cargo: 35,160 tons

Bay 1: Cargo	1 Door
Bay 2: Fighters (18)	4 Doors
Bay 3: Small Craft (8)	2 Doors

DropShip Capacity: 4
Grav Deck: 2 (55- and 90-meter diameters)

Crew: 201
Passengers: 126
Marine Points: 67

Cost: NA

Notes: Clan version may carry 5 DropShips.

CAMERON (BATTLECRUISER)

Intended to fill the gap between cruisers and battleships, the original *Cameron* design fell distressingly prey to minor malfunctions. The destruction of the Cameron Class battlecruiser SLS *Saint Joan* by Periphery pirates caused a scandal that led to the resignation of several senior admirals, and the nationalization of the Daussault-Shimmon yards that produced the ships. The resulting redesign of the battlecruiser eliminated many of the earlier flaws.

Tech: Star League
Introduced: 2668
Number in Class: 40

Mass: 859,000 tons
Length: 839 meters
Sail Diameter: 1,450 meters

Fuel: 1,000 tons (500)
Tons/Burn-day: 39.52
Safe Thrust: 2
Maximum Thrust: 3

Sail Integrity: 5
KF Drive Integrity: 20

Armor:
Fore: 120
Fore-Side: 128
Aft-Side: 128
Aft: 118

Heat Sinks: 4,860

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**FTR**
Nose	NPPC	450	30	30	30	30	
FL	AR10	—	—	—	—	—	Y
FL	AR10	—	—	—	—	—	Y
FL	NPPC	450	30	30	30	30	
FR	AR10	—	—	—	—	—	Y
FR	AR10	—	—	—	—	—	Y
FR	NPPC	450	30	30	30	30	
LBS	NAC	170	50	50	50	—	
LBS	NAC	170	50	50	50	—	
LBS	NLas	255	17	17	17	17	
RBS	NAC	170	50	50	50	—	
RBS	NAC	170	50	50	50	—	
RBS	NLas	255	17	17	17	17	
AL	NAC	170	50	50	50	—	
AL	NAC	170	50	50	50	—	
AL	NLas	170	11	11	11	11	
AL	AR10	—	—	—	—	—	Y
AL	AR10	—	—	—	—	—	Y
AL	NPPC	550	30	30	30	30	
AR	NAC	170	50	50	50	—	
AR	NAC	170	50	50	50	—	
AR	NLas	170	11	11	11	11	
AR	AR10	—	—	—	—	—	Y
AR	AR10	—	—	—	—	—	Y
AR	NPPC	550	30	30	30	30	
Aft	NPPC	550	30	30	30	30	

Cargo: 22,730 tons

Bay 1: Cargo	1 Door
Bay 2: Fighters (16)	4 Doors
Bay 3: Small Craft (2)	2 Doors

DropShip Capacity: 2
Grav Deck: 2 (Both 75 meters in diameter)

Crew: 287
Passengers: 264
Marine Points: 98

Cost: NA

POTEMKIN (TROOP CRUISER)

One of the most unusual WarShip designs ever built, the massive *Potemkin* Class of WarShips could transport an entire SLDF division. Massively armed and armored, these vessels also carried a squadron of fighters. The huge amounts of fuel required by the craft and its DropShips constituted its only major weakness.

Tech: Star League
Introduced: 2611
Number in Class: 106

Mass: 1,508,000 tons
Length: 1,508 meters
Sail Diameter: 1,345 meters

Fuel: 10,000 tons (5,000)
Tons/Burn-day: 39.52
Safe Thrust: 2
Maximum Thrust: 3

Sail Integrity: 5
KF Drive Integrity: 20

Armor:
Fore: 179
Fore-Side: 201
Aft-Side: 201
Aft: 156

Heat Sinks: 6,650

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**FTR**
Nose	NLas	140	9	9	9	9	
FL	NLas	210	14	14	14	14	
FL	Bcuda	20	4	4	4	4	Y
FR	NLas	210	14	14	14	14	
FR	Bcuda	20	4	4	4	4	Y
LBS	NPPC	675	45	45	45	45	
LBS	NPPC	675	45	45	45	45	
RBS	NPPC	675	45	45	45	45	
RBS	NPPC	675	45	45	45	45	
AL	NPPC	675	45	45	45	45	
AL	NPPC	675	45	45	45	45	
AL	NLas	280	18	18	18	18	
AR	NPPC	675	45	45	45	45	
AR	NPPC	675	45	45	45	45	
AR	NLas	280	18	18	18	18	
Aft	Bcuda	40	8	8	8	8	Y

Cargo: 102,730 tons

Bay 1: Cargo	1 Door
Bay 2: Small Craft (5)	1 Door
Bay 3: Small Craft (5)	1 Door

DropShip Capacity: 25
Grav Deck: 1 (95-meter diameter)

Crew: 256
Passengers: 1,096
Marine Points: 75

Cost: NA

TEXAS (BATTLESHIP)

Manufacturers of the *Texas* Class battleship took advantage of cutting-edge technology to create the Star League's most heavily armored naval vessels. Well-armed and maneuverable with six fighter squadrons, the *Texas* Class remains the most potent of battleship of its era and possibly for all time.

Tech: Star League
Introduced: 2618
Number in Class: 52

Mass: 1,560,000 tons
Length: 1,209 meters
Sail Diameter: 1,375 meters

Fuel: 1,400 tons (700)
Tons/Burn-day: 39.52
Safe Thrust: 3
Maximum Thrust: 5

Armor:
Fore: 234
Fore-Side: 342
Aft-Side: 342
Aft: 234

Sail Integrity: 5
KF Drive Integrity: 30

Heat Sinks: 7,950

Weapons			**Range Values**				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**FTR**
FL	NPPC	900	60	60	60	60	
FL	Whale	20	4	4	4	4	Y
FL	NAC	135	40	40	—	—	
FR	NPPC	900	60	60	60	60	
FR	Whale	20	4	4	4	4	Y
FR	NAC	135	40	40	—	—	
LBS	NLas	840	54	54	54	54	
LBS	AR10	—	—	—	—	—	Y
LBS	AR10	—	—	—	—	—	Y
RBS	NLas	840	54	54	54	54	
RBS	AR10	—	—	—	—	—	Y
RBS	AR10	—	—	—	—	—	Y
AL	NLas	840	54	54	54	54	
AL	AR10	—	—	—	—	—	Y
AL	AR10	—	—	—	—	—	Y
AL	NPPC	900	60	60	60	60	
AR	NLas	840	54	54	54	54	
AR	AR10	—	—	—	—	—	Y
AR	AR10	—	—	—	—	—	Y
AR	NPPC	900	60	60	60	60	

Cargo: 51,200 tons

Bay 1: Small Craft (16)	2 Doors
Bay 2: Fighters (20)	5 Doors
Bay 3: Fighters (20)	5 Doors

DropShip Capacity: 6
Grav Deck: 3 (55, 65, and 95-meter diameters)

Crew: 702
Passengers: 96
Marine Points: 234

Cost: NA

MCKENNA (BATTLESHIP)

The largest jump-capable craft built during the Star League, the *McKenna* Class carried an unprecedented array of weapons and armor second only to the *Texas* Class battleship. Star League naval officers considered serving on one of these vessels the high point of a naval career, and their sterling reputation in combat prompted many admirals to choose a *McKenna* as their flagship. In addition to its weapons, each *McKenna* battleship carries eight squadrons of fighters.

Tech: Star League
Introduced: 2652
Number in Class: 280

Fuel: 1,600 tons (800)
Tons/Burn-day: 39.52
Safe Thrust: 3
Maximum Thrust: 5

Sail Integrity: 6
KF Drive Integrity: 35

Mass: 1,930,000 tons
Length: 1,405 meters
Sail Diameter: 1,560 meters

Armor:
  Fore: 200
  Fore-Side: 250
  Aft-Side: 250
  Aft: 143

Heat Sinks: 12,650
Weapons

Arc	Type	Heat	S	M	L	Extreme	FTR
			Range Values				
Nose	NAC	135	40	40	—	—	
Nose	NAC	135	40	40	—	—	
Nose	Nlas	170	11	11	11	11	
FL	NAC	135	40	40	—	—	
FL	NAC	135	40	40	—	—	
FL	NAC	135	40	40	—	—	
FL	NLas	255	17	17	17	17	
FL	AR10	—	—	—	—	—	Y
FL	AR10	—	—	—	—	—	Y
FR	NAC	135	40	40	—	—	
FR	NAC	135	40	40	—	—	
FR	NAC	135	40	40	—	—	
FR.	NLas	255	17	17	17	17	
FR	AR10	—	—	—	—	—	Y
FR	AR10	—	—	—	—	—	Y
LBS	NPPC	900	60	60	60	60	
LBS	NPPC	900	60	60	60	60	
LBS	NPPC	900	60	60	60	60	
RBS	NPPC	900	60	60	60	60	
RBS	NPPC	900	60	60	60	60	
RBS	NPPC	900	60	60	60	60	
AL	NPPC	900	60	60	60	60	
AL	NPPC	900	60	60	60	60	
AL	NPPC	900	60	60	60	60	
AR	NPPC	900	60	60	60	60	
AR	NPPC	900	60	60	60	60	
AR	NPPC	900	60	60	60	60	
Aft	NAC	135	40	40	—	—	
Aft	NAC	135	40	40	—	—	
Aft	NAC	135	40	40	—	—	
Aft	NAC	135	40	40	—	—	
Aft	NLas	340	22	22	22	22	
Aft	AR10	—	—	—	—	—	Y
Aft	AR10	—	—	—	—	—	Y

Cargo: 76,350 tons

Bay 1: Small Craft (16)	2 Doors
Bay 2: Fighters (25)	5 Doors
Bay 3: Fighters (25)	5 Doors

DropShip Capacity: 6
Grav Deck: 3 (45, 45, and 75-meter diameters)

Crew: 578
Passengers: 296
Marine Points: 205

Cost: NA

Notes: Has lithium-fusion battery system.

SPACE STATIONS

OLYMPUS

Olympus Class space stations serve as a combined cargo way-station, recharge station, and repair facility. Though well armed, the station's lack of maneuvering thrusters makes it a minor threat. Because all forces find the *Olympus* useful, few navies willingly destroy one.

Tech: Standard
Introduced: 2663

Fuel: 10,000 tons
Tons/Burn-day: 3.9
Energy Banks: 8

Sail Integrity: 4
Armor: (each of six sides) 10

Mass: 1,000,000 tons
Dimensions:
  Length: 660 meters
  Width: 1,500 meters
  Sail Diameter: 4,215 meters

Heat Sinks: 200
Weapons Range Values
(in each of 6 weapons arcs)

Arc	Type	Heat	S	M	L	Extreme
PPC	20	2	2	—	—	
LRM	12	2	2	2	—	
AC 9	3	1	—	—		
SRM	8	2	—	—	—	
Laser	31	4	2	—	—	
Point	6	2	—	—	—	

Cargo: 159,200 tons

Bay 1: Small Craft (6)	2 Doors
Bay 2: Fighters (6)	2 Doors
Bay 3: Cargo	12 Doors

Docking Collars: 4
Grav Deck: 2 (1,230 and 150-meter diameters)

Crew: 150
Passengers: 126
Marine Points: 50

Cost: NA

Notes: Has 2 pressurized repair bays. Each can hold vessels massing 50,000 tons or less. A third pressurized bay can accomodate JumpShips or DropShips massing up to 150,000 tons.

BASTION

The *Bastion* is one of the few remaining planetary defense stations left after the depredations of the Succession Wars. Less than two dozen still exist, guarding prominent worlds deep in the heart of each Successor State.

Tech: Standard
Introduced: 2584

Mass: 150,000 tons
Dimensions:
Length: 345 meters
Width: 345 meters
Sail Diameter: None

Fuel: 2,000 tons
Tons/Burn-day: 3.95
Energy Banks: 0

Sail Integrity: 0
Armor: (each of six sides) 20

Heat Sinks: 1,000
Weapons
(in each of 6 weapons arcs)

Range Values

Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**
PPC	30	3	3	—	—	
LRM	16	3	3	3	—	
AC 4	2	2	—	—	—	
Laser	46	6	2	—	—	
Point	12	4	—	—	—	

Cargo: 84,890 tons

Bay 1: Small Craft (12)	2 Doors
Bay 2: Fighters (18)	5 Doors
Bay 3: Fighters (18)	5 Doors

Docking Collars: 1
Grav Deck: 1 (250-meter diameter)

Crew: 400
Passengers: 25
Marine Points: 170

Cost: NA

Notes: Has 2 pressurized repair bays that can hold vessels massing 30,000 tons or less. Can detect approaching craft to a range of 200,000 kilometers.

ALLIANCE

These repair facilities are frequently used to assemble small DropShips. Most *Alliance* Class stations have long lists of craft waiting for repair or maintenance.

Tech: Standard
Introduced: 2713

Mass: 100,000 tons
Dimensions:
Length: 975 meters
Width: 600 meters
Sail Diameter: 2,175 meters

Fuel: 10,000 tons
Tons/Burn-day: 3.95
Energy Banks: 0

Sail Integrity: 7
Armor: (each of six sides) 7

Heat Sinks: 400
Weapons
(in each of 6 weapons arcs)

Range Values

ArcType	**Heat**	**S**	**M**	**L**	**Extreme**
PPC	10	1	1	—	—
LRM	10	2	2	2	—
AC	1	1	1	—	—
Laser	34	5	2	—	—

Cargo: 80,000 tons

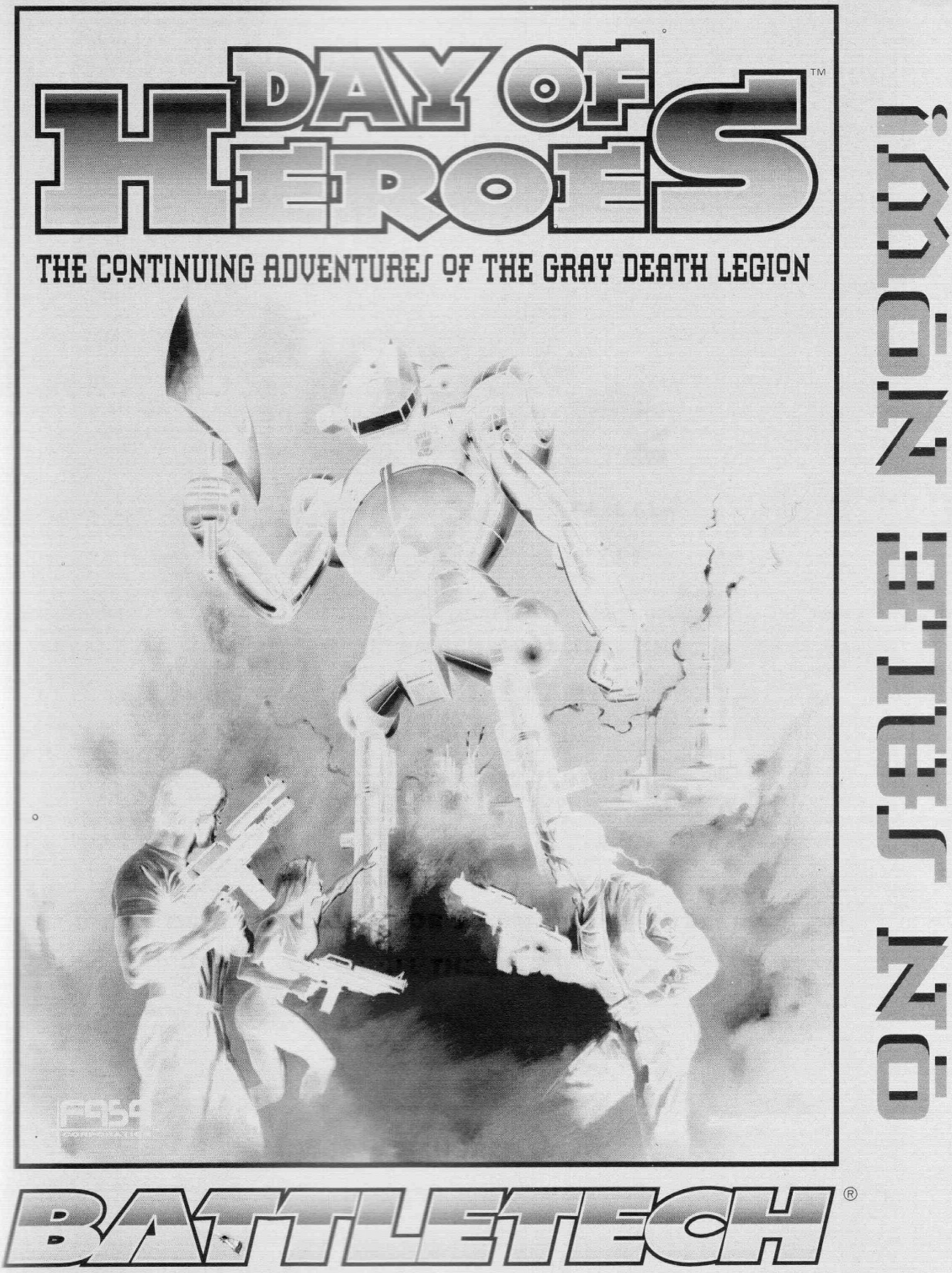
Bay 1: Small Craft (8)	1 Door
Bay 2: Cargo	2 Doors
Bay 3: NA	

Docking Collars: 2
Grav Deck: 1 (420-meter diameter)

Crew: 300
Passengers: 150
Marine Points: 50

Cost: NA

Notes: Has 2 unpressurized repair bays that can hold vessels massing 50,000 tons or less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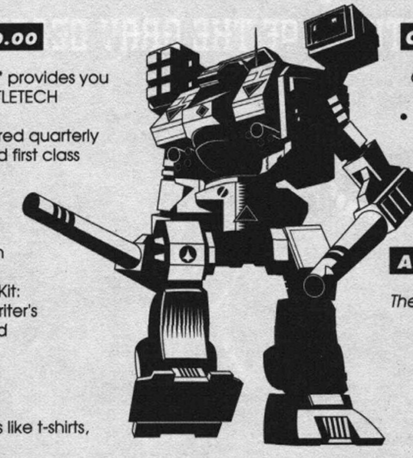

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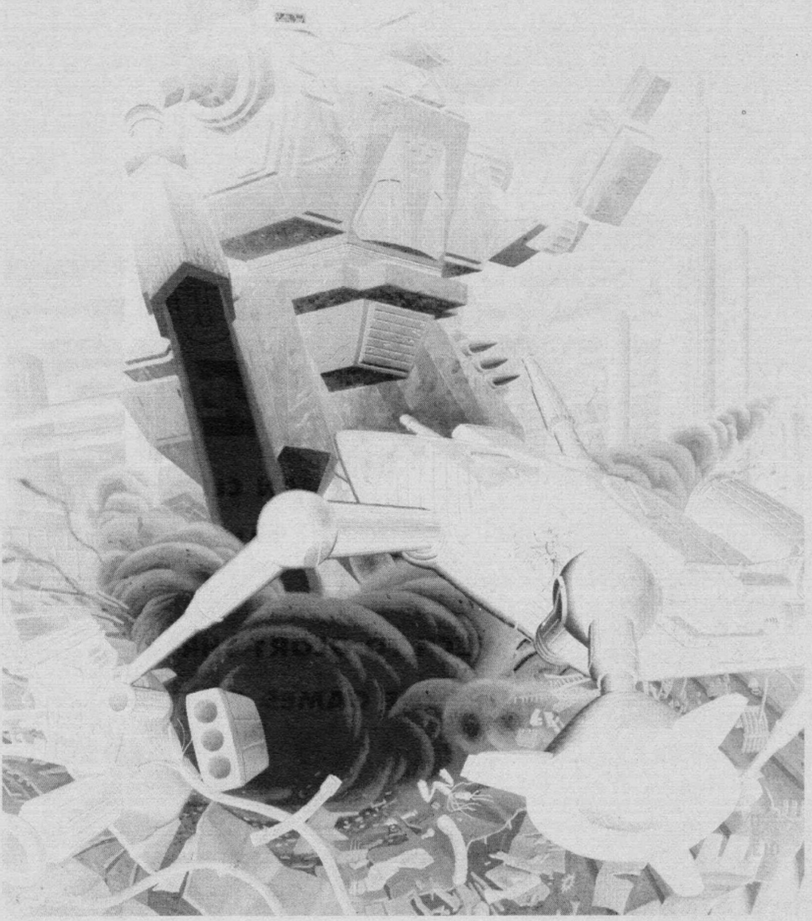

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p. 14 Weapons Fire/Firing Arcs
When resolving weapons fire between two units occupying the same hex, firing arcs for both ships are determined as though the unit that entered the hex second was still in the hex it just occupied. This does not apply to fighters while dogfighting. See **Fighters**, p. 16. Spheroid DropShips may use any of the standard firing arcs. Aerodyne DropShips use the same firing arcs as aerospace fighters.

p. 15 Center Bottom Diagram
Arc labeled "Aft Left" should be "Left Wing" and arc labeled "Fore Right" should be "Right Wing."

p. 17 Diagram (Damage)
The diagram on this page refers to the example on page 22.

p. 18 Applying Damage (Diagram)
The Hit location diagram labeled for DropShips and Jumpships is only for Dropships. The diagram labeled for WarShips is for Jumpships and WarShips.

p. 18–19 Determining Fighter Damage
When fighters are firing in loose formation, count only half of all remaining fighters in the unit (round down) when calculating damage. For example, five fighters in loose formation count only as two for calculating damage. In the example, the description of the fighter firing the weapons of both wings and the nose (Fire Factors of 14 and 3) should read (Heat Values of 14 and 3).

p. 23 General Critical Damage (CIC)
Apply the penalties for damage to this system to the to-hit roll target numbers.

p. 24 General Critical Damage (Computer)
The penalty incurred for using the Navigation, Bridge, Radar, and CIC systems after the computer system is damaged is in addition to penalties incurred for damage to those actual systems.

p. 24–25 General Critical Damage (Fusion Plant)
The description of the relationship between Fusion Plant boxes and Power Points is wrong. DropShip Power Points supply power to 6 firing arcs, the drive, and life support (no excess points). Ignore the sentence, "For example, crossing off 4 Fusion Plant boxes (2 excess points + 2 points) means that only six systems receive power."
The final paragraph in this description should read, "The fusion plants of WarShips and space stations produce 16 Power Points to power life support, transit drive, and each firing arc, each of which requires 1 point of power." Excess points are always lost first, as described on p. 25.

p. 26 General Critical Damage (Transit Drive)
The thrust of a ship cannot be reduced below 0 by crossing off Transit Drive boxes. Even if the craft cannot expend Thrust Points, the drive system continues to function until all boxes are crossed off.

p. 28 JumpShip/WarShip Critical Systems (KFFC Boom)
This system is actually part of a DropShip, and tells the JumpShip computer that a DropShip has docked on a hardpoint and needs to have the K-F field extended around it in preparation for a jump. If this system is not working, the JumpShip computer will register a docked DropShip, but the lack of a KFFC-boom connection prevents it from jumping.

p. 29 JumpShip/Warship Critical Systems
(Station-Keeping Drive section)
The station-keeping thrust cannot be reduced below 0, but a JumpShip with a Thrust Value of 0 should be treated as Out-of-Control. As most JumpShips have only 0.1 or 0.2 Gs of acceleration, it takes very little damage to send a JumpShip Out-of-Control.

p. 29 Space Station Critical Damage (Energy Transfer)
The sentence, "For each box crossed out, add 25 percent to the time needed to transfer power to a DropShip" should read ". . .to transfer power to a JumpShip."

p. 29 Space Station Critical Damage (Grav Deck)
Repair time is 10 days.

p. 30 Optional Thrust Point Use
The sentence that reads, " ... the unit moves slower than maximum thrust ..." should read, " ... the unit expends less than maximum thrust ..."

p. 32 Space/Atmosphere Interface
These rules assume a Terra-like world with approximately 1 G. For each additional 1/2 G, increase the minimum thrust requirements by 1. For each 1/4 G below 1 G, reduce the minimum thrust by 1.

p. 33 Gravity
The second sentence reads, "In the End Phase, move any units on the planetary mapsheet that have Velocity 0 one hex-row closer to the planetary surface." This should read, "In the End Phase, move any units on the planetary mapsheet one hex-row closer to the planetary surface. This only affects units in the atmosphere or interface if their Velocity is 0."

p. 34 Optional Rules (Ground)
When determining the to-hit number for a ground attack, modify the base to-hit number for the terrain the target unit occupies.

Delete the sentence, "The ground-attack Fire Factor of each fighter in a unit appears under the Velocity section at the bottom of each Fighter Record Sheet."

p. 36 Optional Rules (Advanced Point Defense Weapons)
Round up all fractional damage from point defense systems, when used defensively.

p. 37 Optional Rules (Boarding Actions)
The Marine Point Value for Civilians is 0.1.

p. 38 Dropping Troops
Damage to battle armor from a failed drop is 1D6 damage to each trooper per point by which the roll failed.

p. 46 Jump Sail Recharging
Delete the sentence that begins, "A result of 3 or more ..." and the sentence that follows, replacing them with, "The target number for this operation is 3. Success indicates that the sail has been deployed (or furled). Failure indicates that the sail takes 1 point of damage to its sail integrity. Damage may not reduce a sail's integrity below 0, but a sail with an Integrity of 0 may not be used to charge a KF drive." (A sail with Integrity 0 is destroyed.)

p. 48 Campaign Operations (Detection)
In the second paragraph, AU stands for Astronomical Units.

p. 49 Campaign Operations (Docking)
Because the K-F boom is part of the DropShip, the third paragraph should read, "Any DropShip with a working K-F boom may be transported through hyperspace if docked with a JumpShip."

p. 53 Failed Braking Maneuver Table
The effects for rolls of 5 and 6+ should read, "Add x to the pilot's Piloting/Spacecraft Skill Target Number."

p. 54 Braking Maneuver Damage Table
This table should be named the **Landing Difficulty Modifiers Table.**

p. 55 Failed Landing Table (Fighters/Shuttles)
The final Margin of Failure should be 8+ rather than 9.

p. 58 Structure MPV Table

The note at the top of this table provides the formula for the Structural Integrity MPV.

p. 61 Fighter Repair

The second paragraph should begin, "Recovered causualties may also be repaired." This refers to craft recovered using the **Recovering Fighter Casualties** rules on page 52.

p. 63 Crew Requirements Table

For WarShips, the column headers should read: Pilots/Non-Engineers, Engineers, Secondary Engineers.

p. 65 Fuel Consumption Table

The first line of the **Ship Mass (in tons)** column should read "399 and less."

p. 65 Civilian Fuel Consumption Table

The first line of the **Ship Mass (in tons)** column should read "999 and less."

p. 66 Structural Mass (Example)

The examples of SI are both wrong. In both cases, the minimum SI is 5. The SI values given are actually the mass of the structure required to give that integrity to that type of vessel.

p.67 Heat Sink Table (Sphereoids)

The civilian column at the Divisor 20 row should Read "520—979."

p. 67 Armor

The heading "DropShip Armor " should read "Maximum DropShip Armor."

The formulas for determining the maximum armor tonnage of DropShips are:

Aerodynes: Structural Integrity x 4.5 tons

Spheroids: Structural Integrity x 3.6 tons

In the **Armor Point Table**, the first line of the **Ship Mass (in tons)** columns should read "12,499 and less" (for Spheroids) and "5,999 and less" (for Aerodynes).

The paragraph below the Armor Point Table in the second column should instruct players to divide the total Armor Points between the four facings, with the left and right sides receiving the same value. They need not be divided equally between all facings. This also applies to the armor rule for JumpShips and WarShips on page 74.

p. 67 Miscellaneous Structural Components I (Table)

The tonnage for troops should read as follows:

Infantry (foot)	5 tons per platoon (28 individuals)
Infantry (jump)	6 tons per platoon (21 individuals)
Infantry (motor)	7 tons per platoon (28 individuals)
Elementals	10 tons per point (5 Elementals)

Cargo should be listed as all of the tonnage left over after ALL componets have been added together. Also, cargo must be designated to bays for game purposes. If cargo is allocated to two or more bays, the cargo tonnage per bay must be allocated before beginning game play.

The reference to CASE should be removed from this table.

Small craft bays mass 200 tons.

p. 68 Choose Weapons

Replace the first paragrapgh of step 3 with " Side firing arcs must contain identical weaponry to maintain the ship's balance. these arcs are left/right wings, left/right broadside, fore left and fore right, and aft left and aft right." This correction also applies to the close weapons section of **Jumpship/Warship Construction**, p.75.

In the final paragraph, the second sentence should read, "If a weapon has fewer than 10 *turns* of ammunition available , add only 75 percent of its Fire Factor to this total." This correction also applies to the Choose Weapons section of **JumpShip/WarShip Construction**, p. 75, and the Offensive Systems section of **Converting AeroTech Craft**, p. 78.

p. 69 Master Weapons Tables

The Ultra AC/5 Shots/Ton is 10.

p. 69–70 Master Weapons Tables

Some weapon tonnages were listed incorrectly. Replace those tonnages with the following corrections.

Inner Sphere	
Small Laser	0.5
Anti-Missile System	0.5
Machine Gun	0.5
LRM 5 + Artemis	3
LRM 10 + Artemis	6
LRM 15 + Artemis	8
LRM 20 + Artemis	11
SRM 2 + Artemis	2
SRM 4 + Artemis	3
SRM 6 + Artemis	4
Streak 2	1.5

Clans	
ER Small Laser	0.5
Flamer	0.5
Large Laser	5
Medium Laser	1
Small Laser	0.5
Anti-Missile System	0.5
Machine Gun	0.25
LRM 10	2.5
LRM 15	3.5
LRM 5 + Artemis	2
LRM 10 + Artemis	3.5
LRM 15 + Artemis	4.5
LRM 20 + Artemis	6
SRM 2	0.5
SRM 6	1.5
SRM 2 + Artemis	1.5
SRM 4 + Artemis	2
SRM 6 + Artemis	2.5

p. 72 Add K-F Drive

Standard Core Integrity = 1.2 + (K-F drive mass/60,000)

p. 75 Other Components (Example)

In the example, Bill must divide his 40 Armor Points between 6 facings, not 4, and does so as follows: Nose = 8, Aft = 8, each of 4 sides = 6.

p. 76 Space Stations

All space stations have a Structural Integrity of 1, regardless of overall tonnage. The Structural Integrity tonnage is equal to the total tonnage of the space station multiplied by .01.

p. 77 Construction Cost Table

The cost for armor is 16,000 C-bills per ton.

The reference to CASE should be removed from this table.

p. 82 Miscellaneous Critical Damage

The final sentence in the first paragraph should omit the word "critical."

p. 85 Strike

The last sentence of the first paragraph should read, " … reduce the Base To-Hit Number *by* 4."

p. 85 Bombing

For cargo purposes, a unit of bombs weighs 1 ton. Also, bombs cost 10,000 C-bills per unit for all types.

Note that the Arrow IV listed is a special air-launched version that is incompatible with ground units. It requires no launcher.

p. 86 Ripple Bombing (Scatter Diagram)

There should be a Direction of Flight arrow pointing toward the top of the page.

p. 86 Dive Bombing and Ripple Bombing

Note that a separate Scatter Roll is made for each bomb unit dropped.

p. 87 Return Fire

The text at the top of the page should read, " … fired, modified by the firer's Gunnery skill and movement."

p. 87 Diagram (Bottom Right)

The diagram on this page refers to low-altitude maneuvers and should appear on page 83 with those rules.

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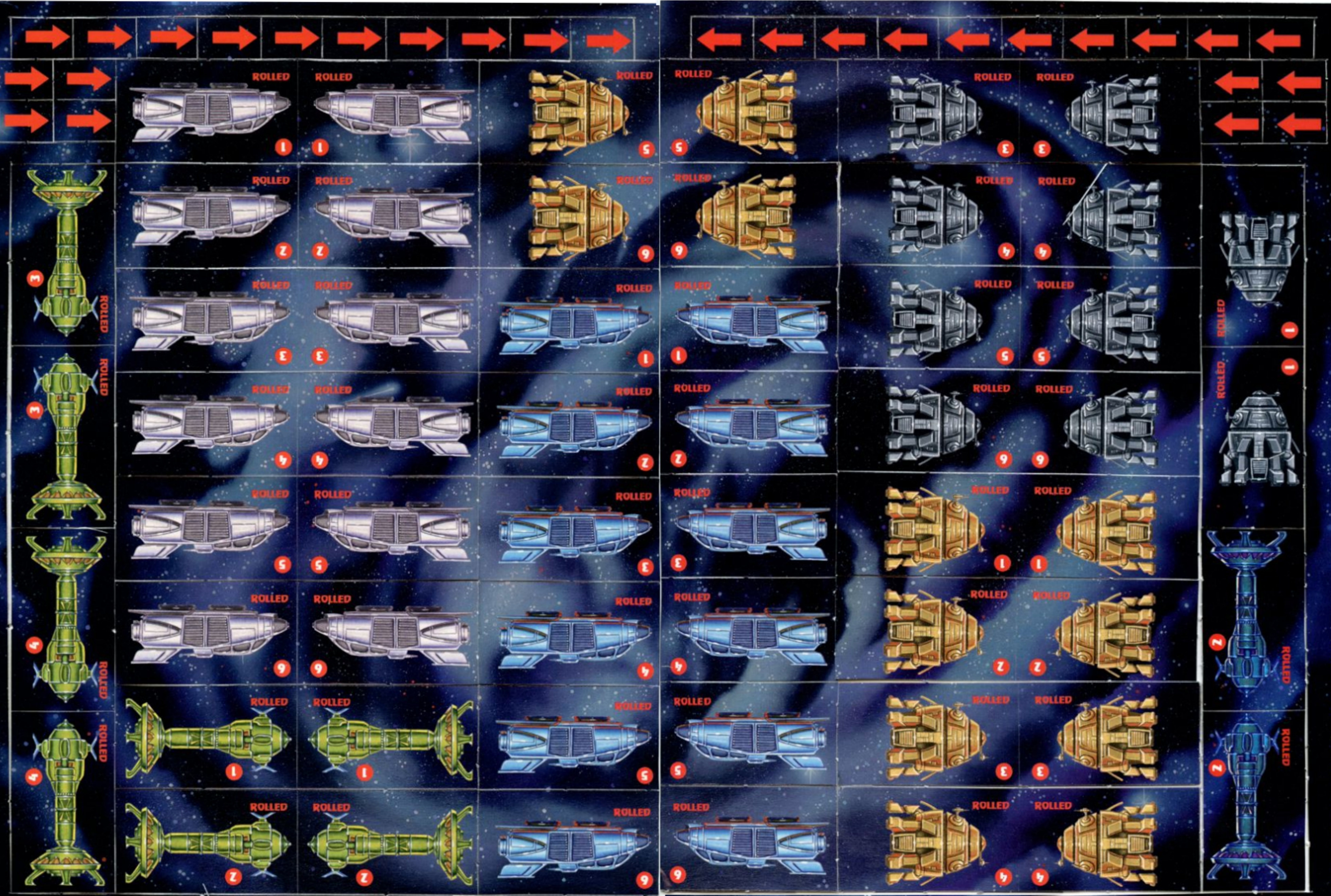
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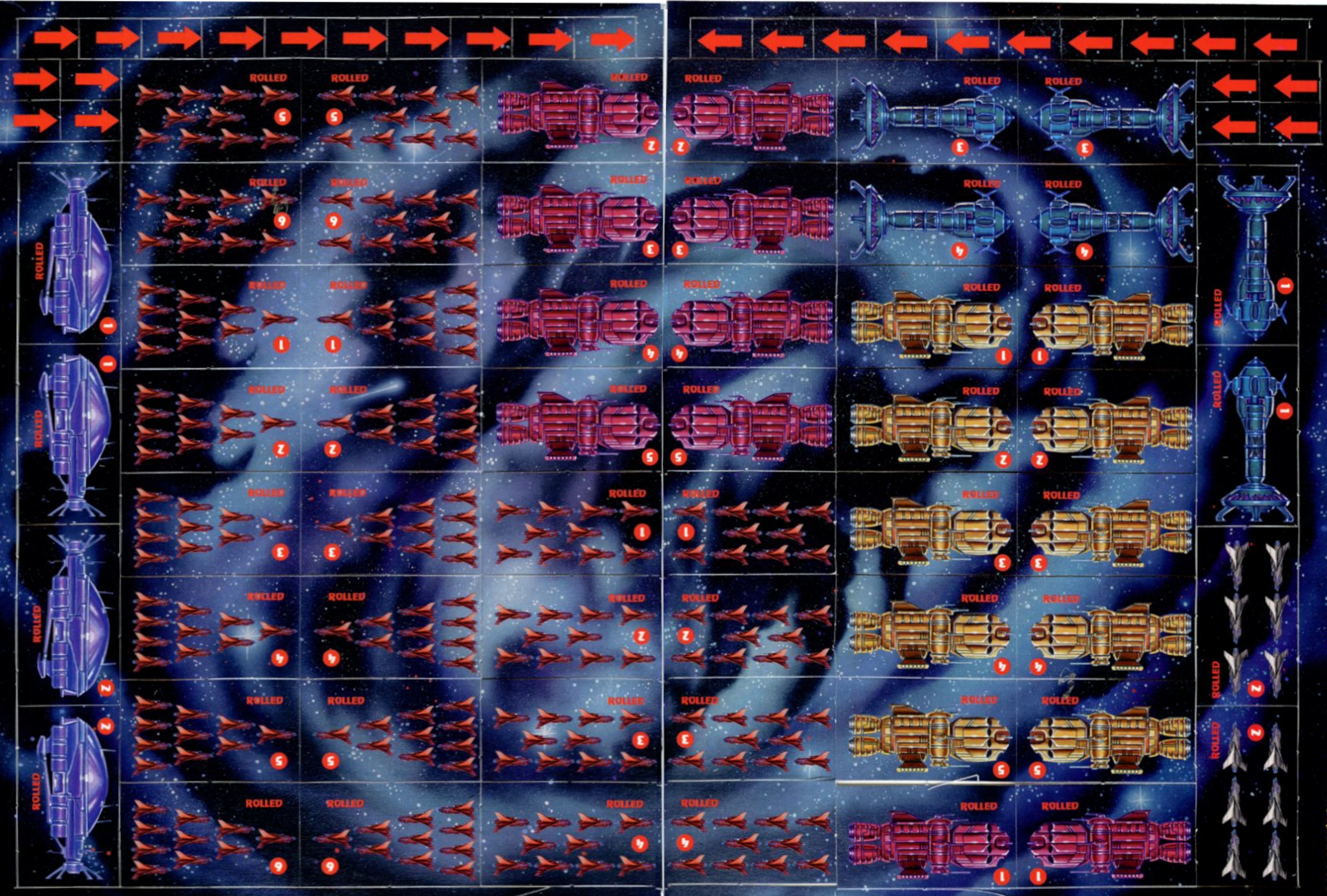

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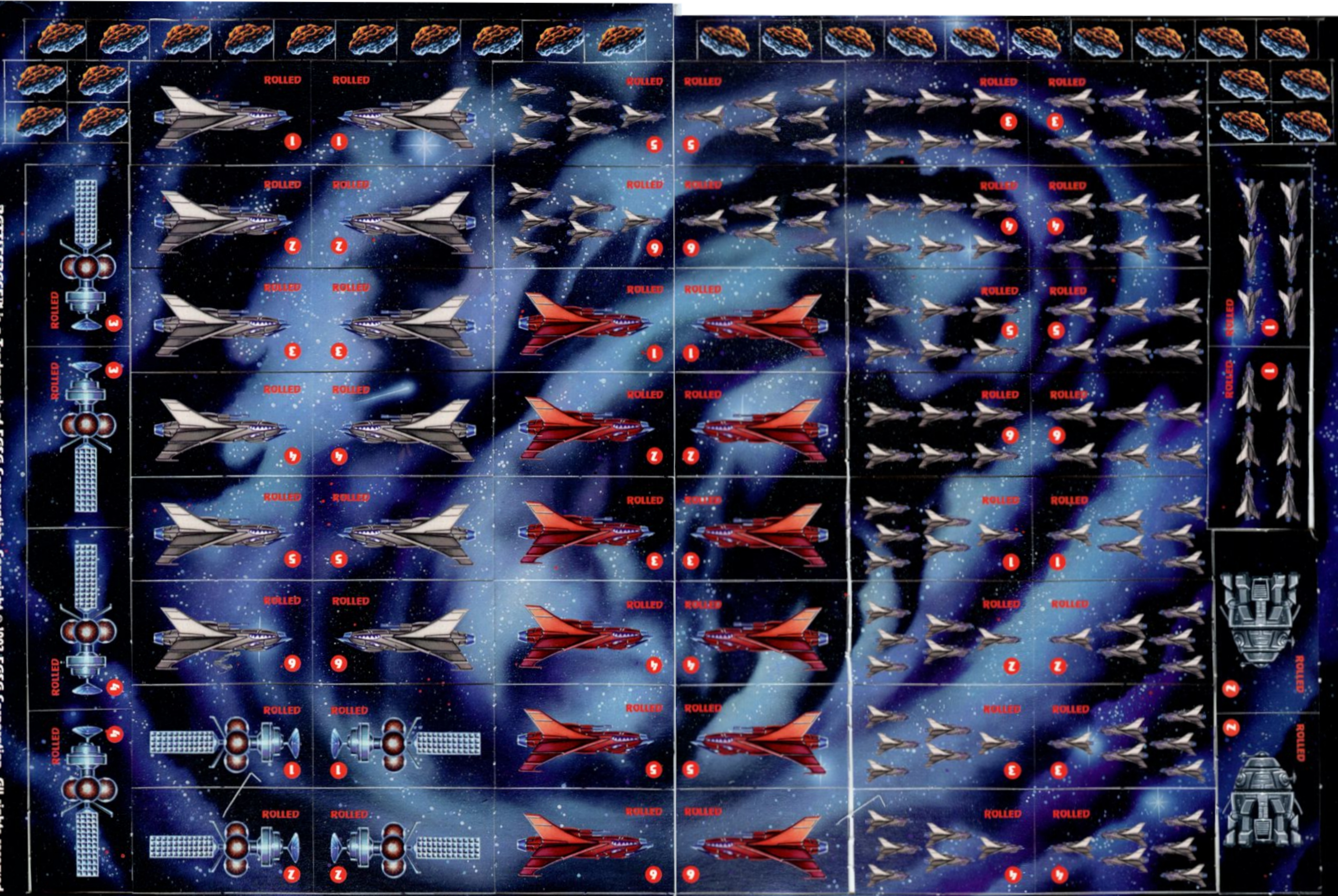

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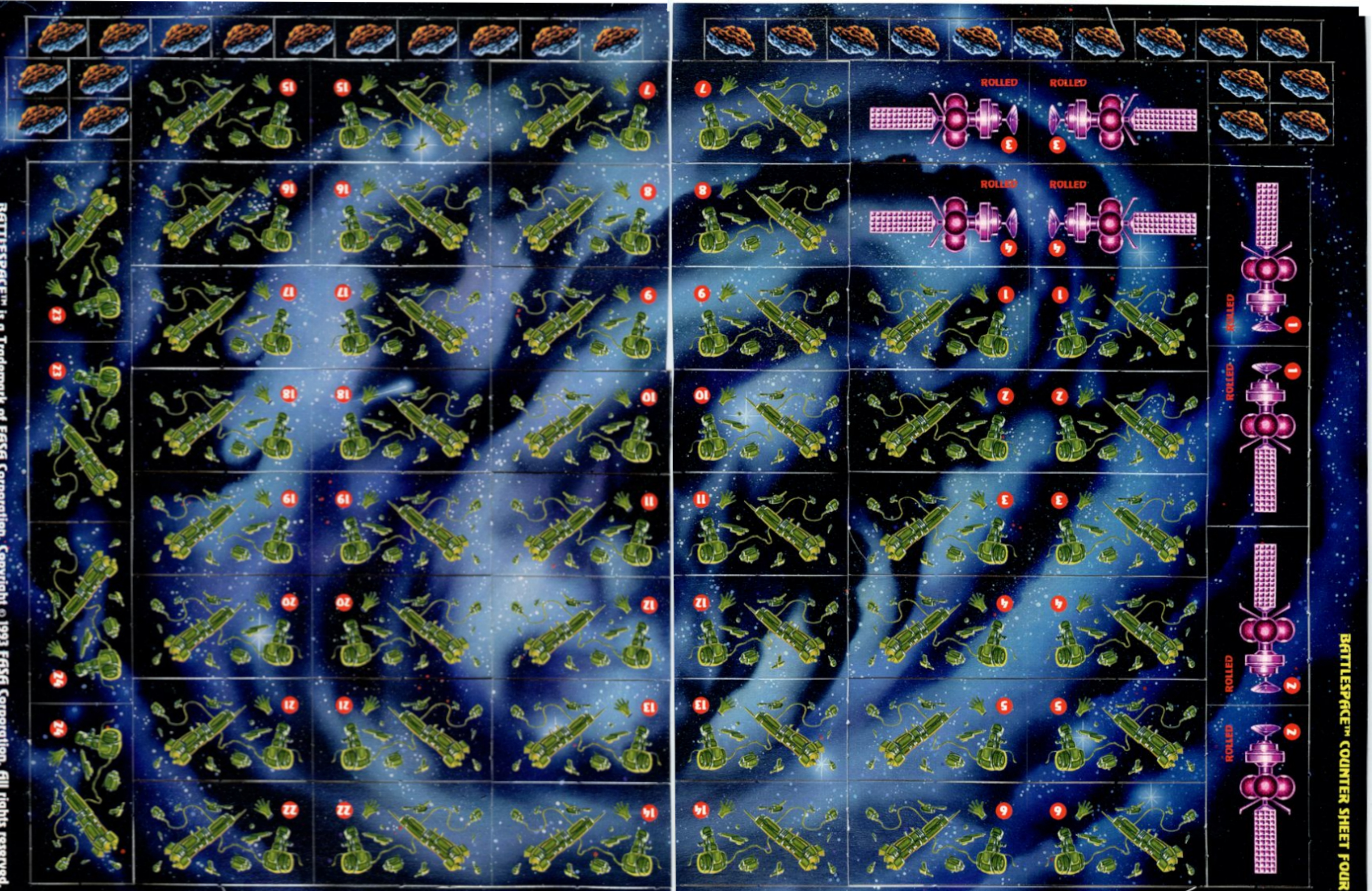

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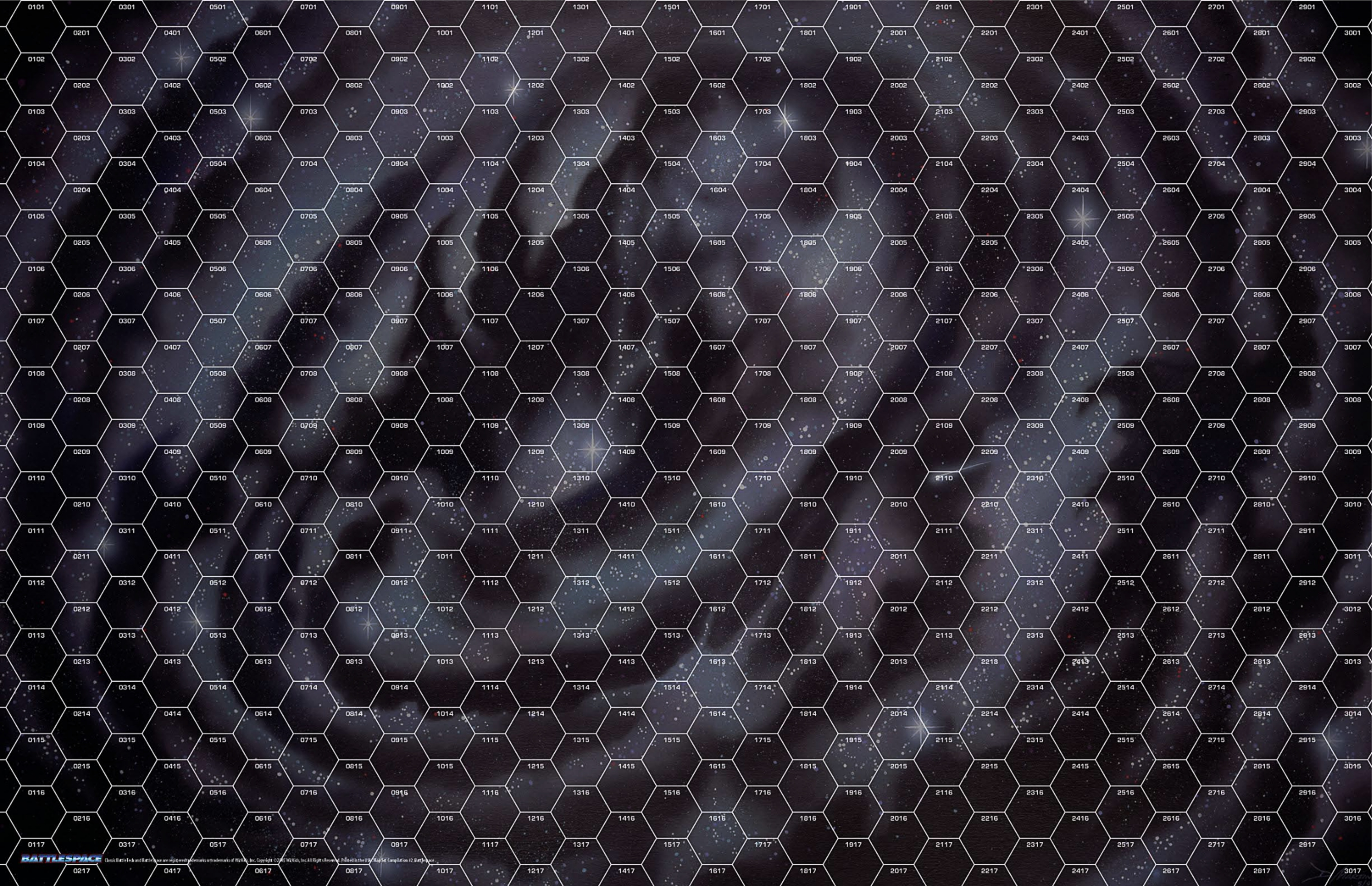
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BATTLESPACE

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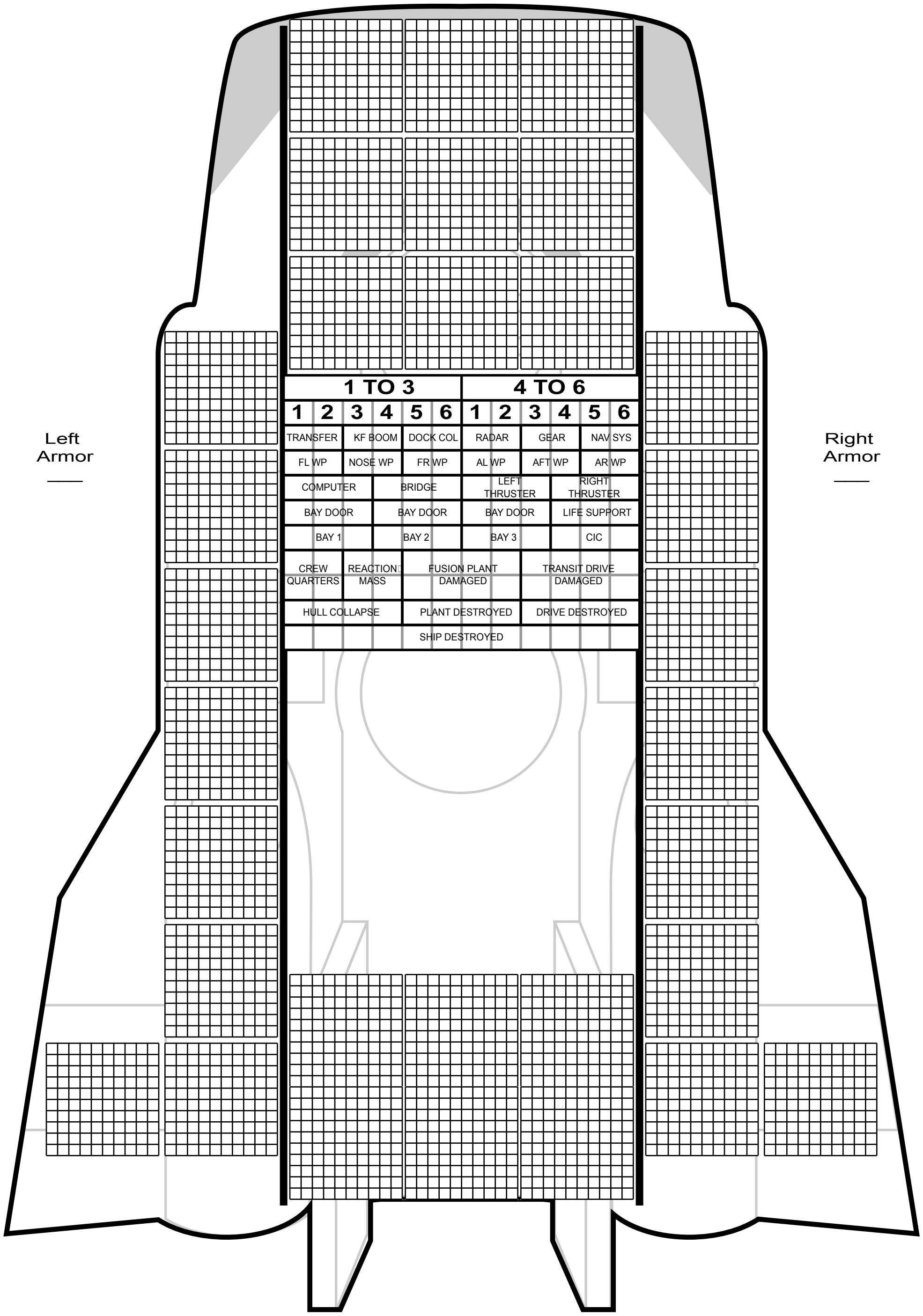
BATTLESPACE

AERODYNE DROPSHIP RECORD SHEET

ARMOR DIAGRAM

Nose Armor ___



1 TO 3						4 TO 6					
1	2	3	4	5	6	1	2	3	4	5	6
TRANSFER		KF BOOM		DOCK COL		RADAR		GEAR		NAV SYS	
FL WP		NOSE WP		FR WP		AL WP		AFT WP		AR WP	
COMPUTER			BRIDGE			LEFT THRUSTER			RIGHT THRUSTER		
BAY DOOR			BAY DOOR			BAY DOOR			LIFE SUPPORT		
BAY 1			BAY 2			BAY 3			CIC		
CREW QUARTERS		REACTION MASS		FUSION PLANT DAMAGED				TRANSIT DRIVE DAMAGED			
HULL COLLAPSE				PLANT DESTROYED				DRIVE DESTROYED			
SHIP DESTROYED											

Aft Armor ___

Cost: ______

Velocity Record

Turn #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Thrust																					
Velocity																					
Effective Velocity																					
Altitude																					
Fuel																					

Vessel Data

Type: ____________________ Tonnage: _________

Name: ____________ Affiliation: _________

Thrust:

Safe Thrust: ______

Maximum Thrust: ______

Technology Base :

☐ Clan

☐ Inner Sphere

Fighters/Small Craft: ___/___ Launch Rate: ______

Life Boats/Escape Pods: ___/___

Total Heat Sinks: ___ (___) Single ☐ Double ☐

Weapons and Equipment Inventory

Weapon	Heat	Arc	SRV	MRV	LRV	ERV
		Standard	(1-6)	(7-12)	(13-20)	(21-25)
		Capital	(0-12)	(13-24)	(25-40)	(41-50)

Crew Data

Gunnery Skill: ____ Piloting Skill: ____

Hits Taken	1	2	3	4	5	6
Modifier	+1	+2	+3	+4	+5	Incp.

Crew: ____ Marines: ___ Other: ___

Passengers: ____ Elementals: ___ Battle Armor: ___

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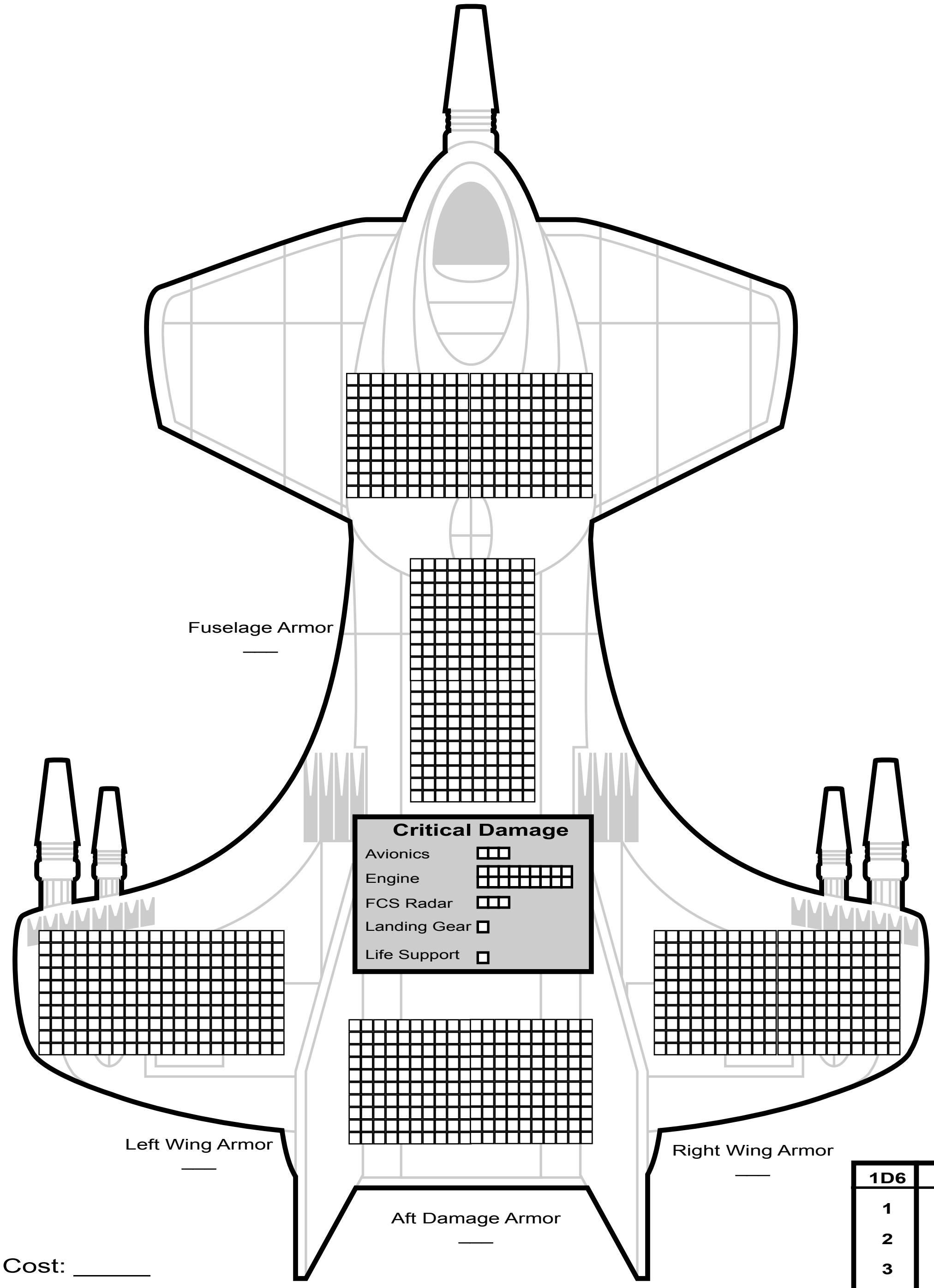
BATTLESPACE

FIGHTER RECORD SHEET (DETAILED)

ARMOR DIAGRAM

Nose Armor ___



Fuselage Armor ___

Critical Damage

Avionics ☐☐☐
Engine ☐☐☐☐☐☐☐☐☐☐
FCS Radar ☐☐☐
Landing Gear ☐
Life Support ☐

Left Wing Armor ___

Right Wing Armor ___

Aft Damage Armor ___

Cost: ______

Vessel Data

Type: ____________ Tonnage: ________
Affiliation: __________
Thrust:
Safe Thrust: ______
Maximum Thrust: ______
Technology Base :
☐ Clan
☐ Inner Sphere

Weapons and Equipment Inventory

Type	Loc.	Heat	SRV (1-6)	MRV (7-12)	LRV (13-20)	ERV (21-25)

Bombs

Total Heat Sinks: ___ (____)

Single ☐
Double ☐

Pilot Data

Name: ______________________

Gunnery Skill: ____ Piloting Skill: ____

Hits Taken	1	2	3	4	5	6
Consciousness #	3	5	7	10	11	Dead
Modifier	+1	+2	+3	+4	+5	Dead

OF HEXES BEFORE FREE TURN

Speed	Hexes	
	A	C
1 TO 3	1	1
4 TO 6	2	1
7 TO 9	3	2
10 TO 12	4	3

1D6	Fore	Aft	L Side	R Side	Above
1	Nose	Aft	Nose	Nose	Nose
2	Nose	Aft	L Wing	R Wing	L Wing
3	Nose	Aft	Fuselage	Fuselage	Fuselage
4	L Wing	L Wing	Fuselage	Fuselage	Fuselage
5	R Wing	R Wing	L Wing	R Wing	R Wing
6	Fuselage	Fuselage	Aft	Aft	Aft

Velocity Record

Turn #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Thrust																				
Velocity																				
Effective Velocity																				
Altitude Level																				
Fuel ☐																				

1D6	Nose	Wing	Aft	Fuselage
1	Weapon	Weapon	Weapon	Pilot
2	Weapon	Weapon	Weapon	Gear
3	Weapon	Weapon	Control	Fuel
4	FCS	Control	Engine	Life Sup.
5	No Crit.	No Crit.	Engine	Avionics
6	No Crit.	No Crit.	No Crit.	No Crit

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FIGHTER RECORD SHEET

BATTLESPACE

Unit Designation: ________________________

Affiliation: ______________________________

Composition:

Fighter 1: _________________________
Fighter 2: _________________________
Fighter 3: _________________________
Fighter 4: _________________________
Fighter 5: _________________________
Fighter 6: _________________________
Fighter 7: _________________________
Fighter 8: _________________________
Fighter 9: _________________________
Fighter 10: _________________________

Safe Thrust: _____
Gunnary: _____
Max Thrust: _____
Piloting: _____
Heat Sinks: _____

ARMOR

10																					Max Clan
9																					
8																					
7																					
6																					Max IS
5																					
4																					
3																					
2																					
1																					

Fighter Attack Values

	Type	Ht	SH	MD	LG	EXT
Nose						
Left Wing						
Right Wing						
Aft						

Velocity Record

Turn #		1	2	3	4	5	6	7	8	9	10
Thrust											
Velocity											
Effective Velocity											
Altitude Level											
Fuel											

Unit Designation: ________________________

Affiliation: ______________________________

Composition:

Fighter 1: _________________________
Fighter 2: _________________________
Fighter 3: _________________________
Fighter 4: _________________________
Fighter 5: _________________________
Fighter 6: _________________________
Fighter 7: _________________________
Fighter 8: _________________________
Fighter 9: _________________________
Fighter 10: _________________________

Safe Thrust: _____
Gunnary: _____
Max Thrust: _____
Piloting: _____
Heat Sinks: _____

ARMOR

10																					Max Clan
9																					
8																					
7																					
6																					Max IS
5																					
4																					
3																					
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1																					

Fighter Attack Values

	Type	Ht	SH	MD	LG	EXT
Nose						
Left Wing						
Right Wing						
Aft						

Velocity Record

Turn #		1	2	3	4	5	6	7	8	9	10
Thrust											
Velocity											
Effective Velocity											
Altitude Level											
Fuel											

Unit Designation: ________________________

Affiliation: ______________________________

Composition:

Fighter 1: _________________________
Fighter 2: _________________________
Fighter 3: _________________________
Fighter 4: _________________________
Fighter 5: _________________________
Fighter 6: _________________________
Fighter 7: _________________________
Fighter 8: _________________________
Fighter 9: _________________________
Fighter 10: _________________________

Safe Thrust: _____
Gunnary: _____
Max Thrust: _____
Piloting: _____
Heat Sinks: _____

ARMOR

10																					Max Clan
9																					
8																					
7																					
6																					Max IS
5																					
4																					
3																					
2																					
1																					

Fighter Attack Values

	Type	Ht	SH	MD	LG	EXT
Nose						
Left Wing						
Right Wing						
Aft						

Velocity Record

Turn #		1	2	3	4	5	6	7	8	9	10
Thrust											
Velocity											
Effective Velocity											
Altitude Level											
Fuel											

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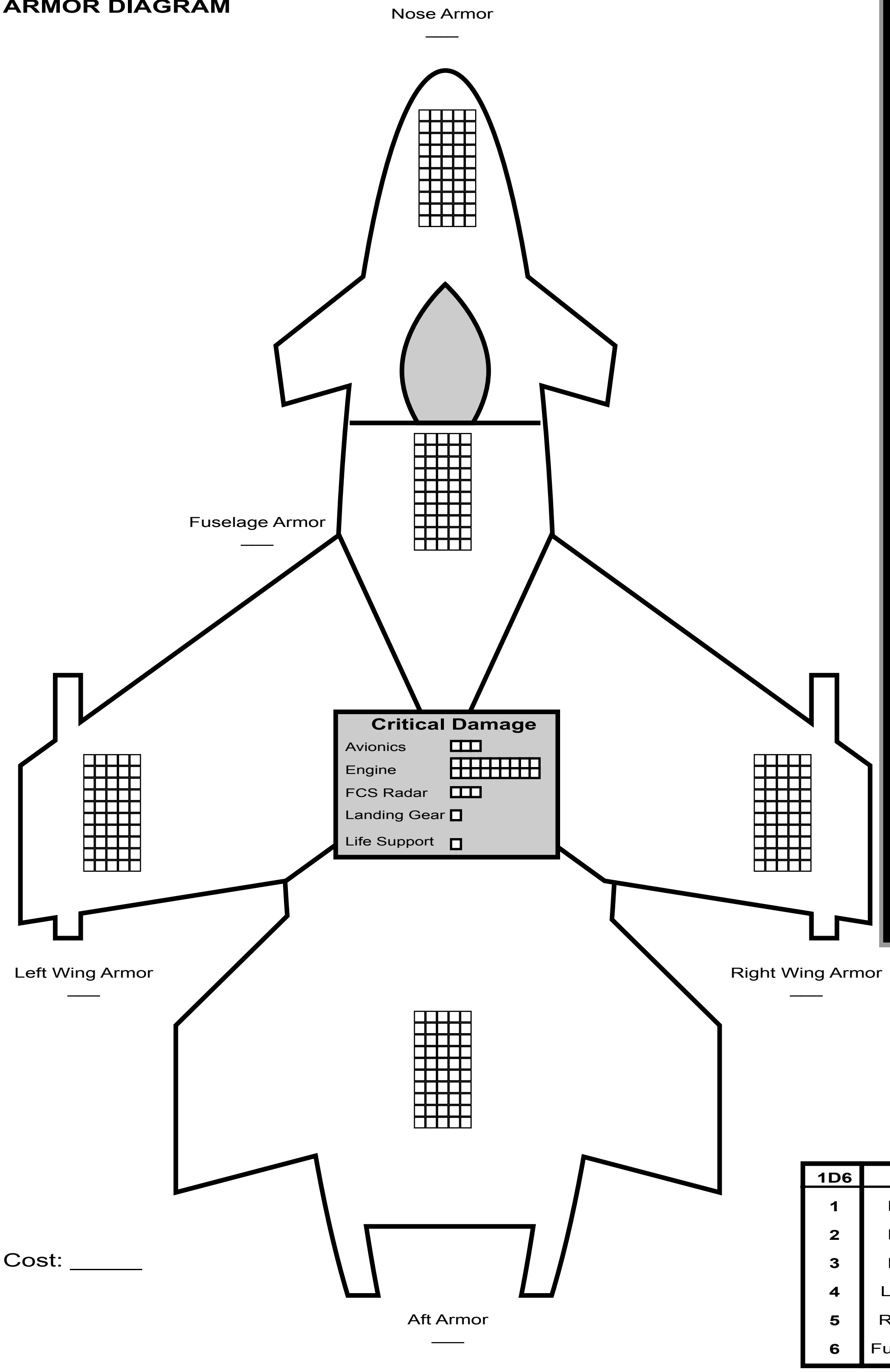
BATTLESPACE

CONVENTIONAL AIRCRAFT RECORD SHEET

ARMOR DIAGRAM



Critical Damage

Avionics	☐☐☐
Engine	☐☐☐☐☐☐☐☐☐
FCS Radar	☐☐☐
Landing Gear	☐
Life Support	☐

Cost: ______

Vessel Data

Type: ____________________ Tonnage: _________

Affiliation: __________

Thrust:

Safe Thrust: ______

Maximum Thrust: ______

Technology Base :

☐ Clan

☐ Inner Sphere

Weapons and Equipment Inventory

Type	Loc.	Heat	SRV (1-6)	MRV (7-12)	LRV (13-20)	ERV (21-25)

Bombs

Total Heat Sinks: 0

Pilot Data

Name: ______________________________

Gunnery Skill: ____

Piloting Skill: ____

Hits Taken	1	2	3	4	5	6
Consciousness #	3	5	7	10	11	Dead
Modifier	+1	+2	+3	+4	+5	Dead

OF HEXES BEFORE FREE TURN

Speed	Hexes	
	A	C
1 TO 3	1	1
4 TO 6	2	1
7 TO 9	3	2
10 TO 12	4	3

1D6	Fore	Aft	L Side	R Side	Above
1	Nose	Aft	Nose	Nose	Nose
2	Nose	Aft	L Wing	R Wing	L Wing
3	Nose	Aft	Fuselage	Fuselage	Fuselage
4	L Wing	L Wing	Fuselage	Fuselage	Fuselage
5	R Wing	R Wing	L Wing	R Wing	R Wing
6	Fuselage	Fuselage	Aft	Aft	Aft

Velocity Record

Turn #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Thrust																				
Velocity																				
Effective Velocity																				
Altitude Level																				
Fuel																				

1D6	Nose	Wing	Aft	Fuselage
1	Weapon	Weapon	Weapon	Pilot
2	Weapon	Weapon	Weapon	Gear
3	Weapon	Weapon	Control	Fuel
4	FCS	Control	Engine	Life Sup.
5	No Crit.	No Crit.	Engine	Avionics
6	No Crit.	No Crit.	No Crit.	No Crit

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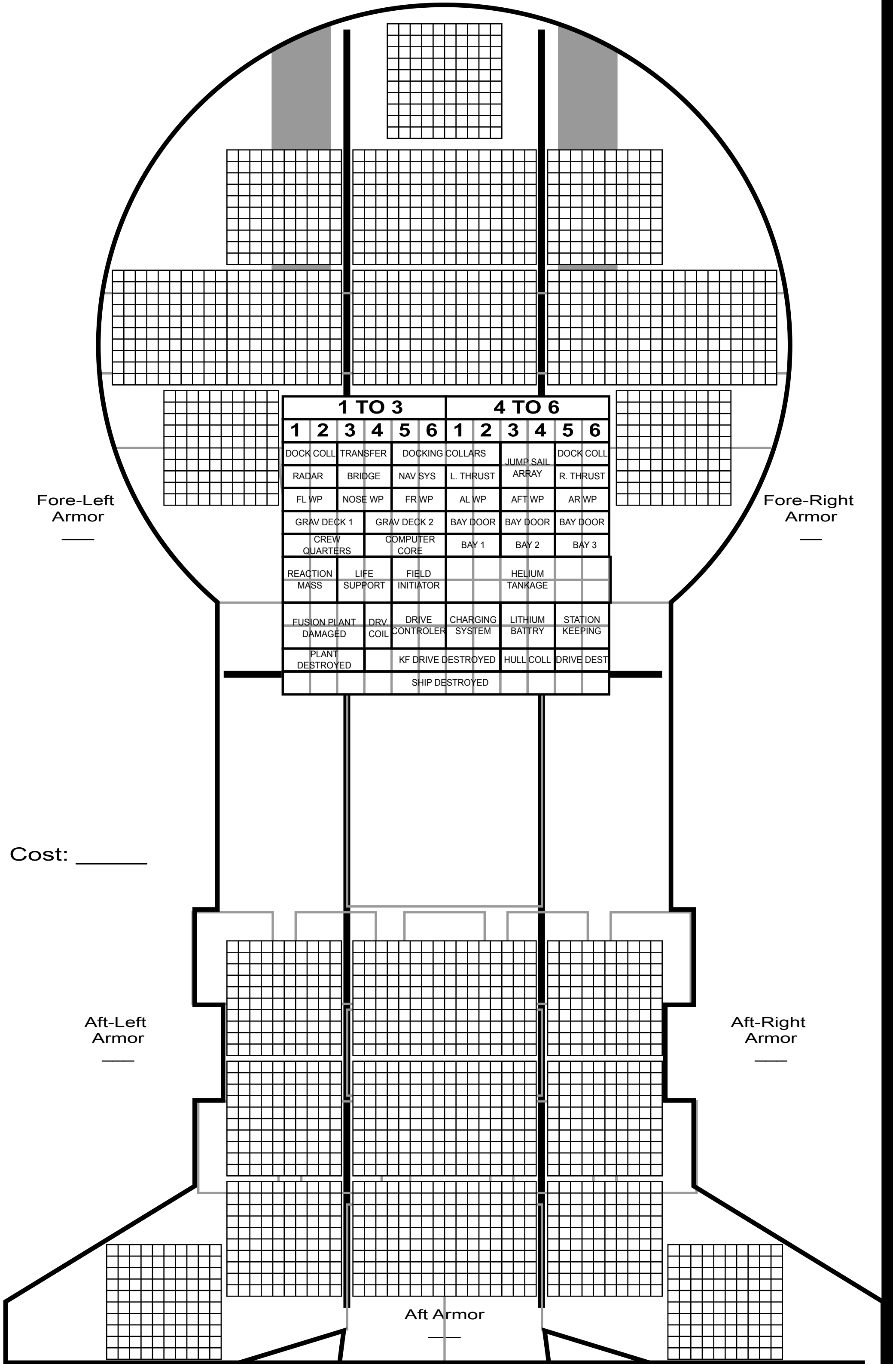
BATTLESPACE

JUMPSHIP RECORD SHEET

ARMOR DIAGRAM

Nose Armor ___



Fore-Left Armor ___

Fore-Right Armor ___

1 TO 3						4 TO 6					
1	2	3	4	5	6	1	2	3	4	5	6
DOCK COLL		TRANSFER		DOCKING COLLARS				JUMP SAIL ARRAY		DOCK COLL	
RADAR		BRIDGE		NAV SYS		L. THRUST				R. THRUST	
FL WP		NOSE WP		FR WP		AL WP		AFT WP		AR WP	
GRAV DECK 1			GRAV DECK 2			BAY DOOR		BAY DOOR		BAY DOOR	
CREW QUARTERS			COMPUTER CORE			BAY 1		BAY 2		BAY 3	
REACTION MASS		LIFE SUPPORT		FIELD INITIATOR		HELIUM TANKAGE					
FUSION PLANT DAMAGED			DRV. COIL	DRIVE CONTROLER		CHARGING SYSTEM		LITHIUM BATTRY		STATION KEEPING	
PLANT DESTROYED				KF DRIVE DESTROYED				HULL COLL		DRIVE DEST	
SHIP DESTROYED											

Cost: ______

Aft-Left Armor ___

Aft-Right Armor ___

Aft Armor ___

Velocity Record

Turn #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Thrust																				
Velocity																				
Effective Velocity																				
Fuel																				

Vessel Data

Type: ____________________ Tonnage: _________

Name: ____________ Affiliation: _________

Thrust: Technology Base :

Safe Thrust: ______ ☐ Clan

Maximum Thrust: ______ ☐ Inner Sphere

Dropships: ______ Escape Pods: ______

Small Craft: ______ Life Boats: ______

Fighters: ______ Launch Rate: ______

Total Heat Sinks: ___ (____) Single ☐ Double ☐

Weapons and Equipment Inventory

Weapon	Heat	Arc	SRV	MRV	LRV	ERV
		Standard	(1-6)	(7-12)	(13-20)	(21-25)
		Capital	(0-12)	(13-24)	(25-40)	(41-50)

Crew Data

Gunnery Skill: ____ Piloting Skill: ____

Crew: ____ Marines: ____ Other: ____

Passengers: ____ Elementals: ____ Battle Armor: ____

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BATTLESPACE

LARGE WARSHIP RECORD SHEET

ARMOR DIAGRAM

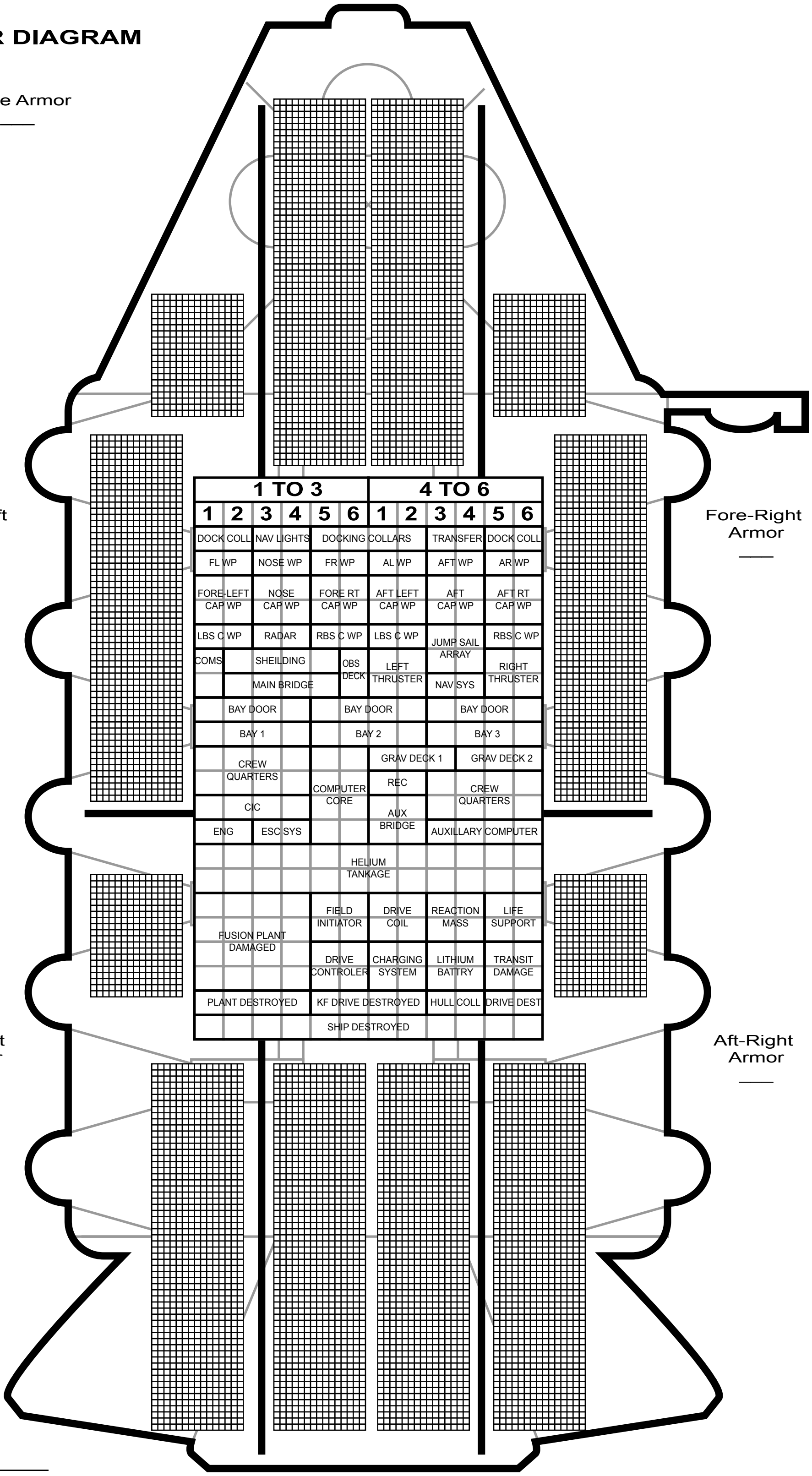
Nose Armor ___

Fore-Left Armor ___

Fore-Right Armor ___

Aft-Left Armor ___

Aft-Right Armor ___



1 TO 3						4 TO 6					
1	2	3	4	5	6	1	2	3	4	5	6
DOCK COLL		NAV LIGHTS		DOCKING COLLARS				TRANSFER		DOCK COLL	
FL WP		NOSE WP		FR WP		AL WP		AFT WP		AR WP	
FORE-LEFT CAP WP		NOSE CAP WP		FORE RT CAP WP		AFT LEFT CAP WP		AFT CAP WP		AFT RT CAP WP	
LBS C WP		RADAR		RBS C WP		LBS C WP		JUMP SAIL ARRAY		RBS C WP	
COMS	SHEILDING				OBS DECK	LEFT THRUSTER				RIGHT THRUSTER	
	MAIN BRIDGE							NAV SYS			
BAY DOOR				BAY DOOR				BAY DOOR			
BAY 1				BAY 2				BAY 3			
CREW QUARTERS				COMPUTER CORE		GRAV DECK 1			GRAV DECK 2		
						REC		CREW QUARTERS			
CIC						AUX BRIDGE					
ENG		ESC SYS						AUXILLARY COMPUTER			
HELIUM TANKAGE											
FUSION PLANT DAMAGED				FIELD INITIATOR		DRIVE COIL		REACTION MASS		LIFE SUPPORT	
				DRIVE CONTROLER		CHARGING SYSTEM		LITHIUM BATTRY		TRANSIT DAMAGE	
PLANT DESTROYED				KF DRIVE DESTROYED				HULL COLL		DRIVE DEST	
SHIP DESTROYED											

Cost: ______

Aft Armor ___

Velocity Record

Turn #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Thrust																					
Velocity																					
Effective Velocity																					
Fuel																					

Vessel Data

Type: ____________________ Tonnage: _________

Name: ____________ Affiliation: _________

Thrust:

Safe Thrust: ______

Maximum Thrust: ______

Technology Base :

☐ Clan

☐ Inner Sphere

Dropships: ______ Escape Pods: ______

Small Craft: ______ Life Boats: ______

Fighters: ______ Launch Rate: ______

Total Heat Sinks: ___ (____) Single ☐ Double ☐

Weapons and Equipment Inventory

Weapon	Heat	Arc	SRV	MRV	LRV	ERV
		Standard	(1-6)	(7-12)	(13-20)	(21-25)
		Capital	(0-12)	(13-24)	(25-40)	(41-50)

Crew Data

Gunnery Skill: ____ Piloting Skill: ____

Crew: ____ Marines: ____ Other: ____

Passengers: ____ Elementals: ____ Battle Armor: ____

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SMALL CRAFT RECORD SHEET

BATTLESPACE

Unit Designation: ______________________
Affiliation: ____________________________
Safe Thrust: _____ Gunnery: _____
Max Thrust: _____ Piloting: _____
Heat Sinks: _____ Marine Points: _____

ARMOR

Small Craft Attack Values

Location	Type	Ht	SH	MD	LG	EXT

Velocity Record

Turn #	1	2	3	4	5	6	7	8	9	10
Thrust										
Velocity										
Effective Velocity										
Altitude Level										
Fuel										

Turn #	11	12	13	14	15	16	17	18	19	20
Thrust										
Velocity										
Effective Velocity										
Altitude Level										
Fuel										

Unit Designation: ______________________
Affiliation: ____________________________
Safe Thrust: _____ Gunnery: _____
Max Thrust: _____ Piloting: _____
Heat Sinks: _____ Marine Points: _____

ARMOR

Small Craft Attack Values

Location	Type	Ht	SH	MD	LG	EXT

Velocity Record

Turn #	1	2	3	4	5	6	7	8	9	10
Thrust										
Velocity										
Effective Velocity										
Altitude Level										
Fuel										

Turn #	11	12	13	14	15	16	17	18	19	20
Thrust										
Velocity										
Effective Velocity										
Altitude Level										
Fuel										

Unit Designation: ______________________
Affiliation: ____________________________
Safe Thrust: _____ Gunnery: _____
Max Thrust: _____ Piloting: _____
Heat Sinks: _____ Marine Points: _____

ARMOR

Small Craft Attack Values

Location	Type	Ht	SH	MD	LG	EXT

Velocity Record

Turn #	1	2	3	4	5	6	7	8	9	10
Thrust										
Velocity										
Effective Velocity										
Altitude Level										
Fuel										

Turn #	11	12	13	14	15	16	17	18	19	20
Thrust										
Velocity										
Effective Velocity										
Altitude Level										
Fuel										

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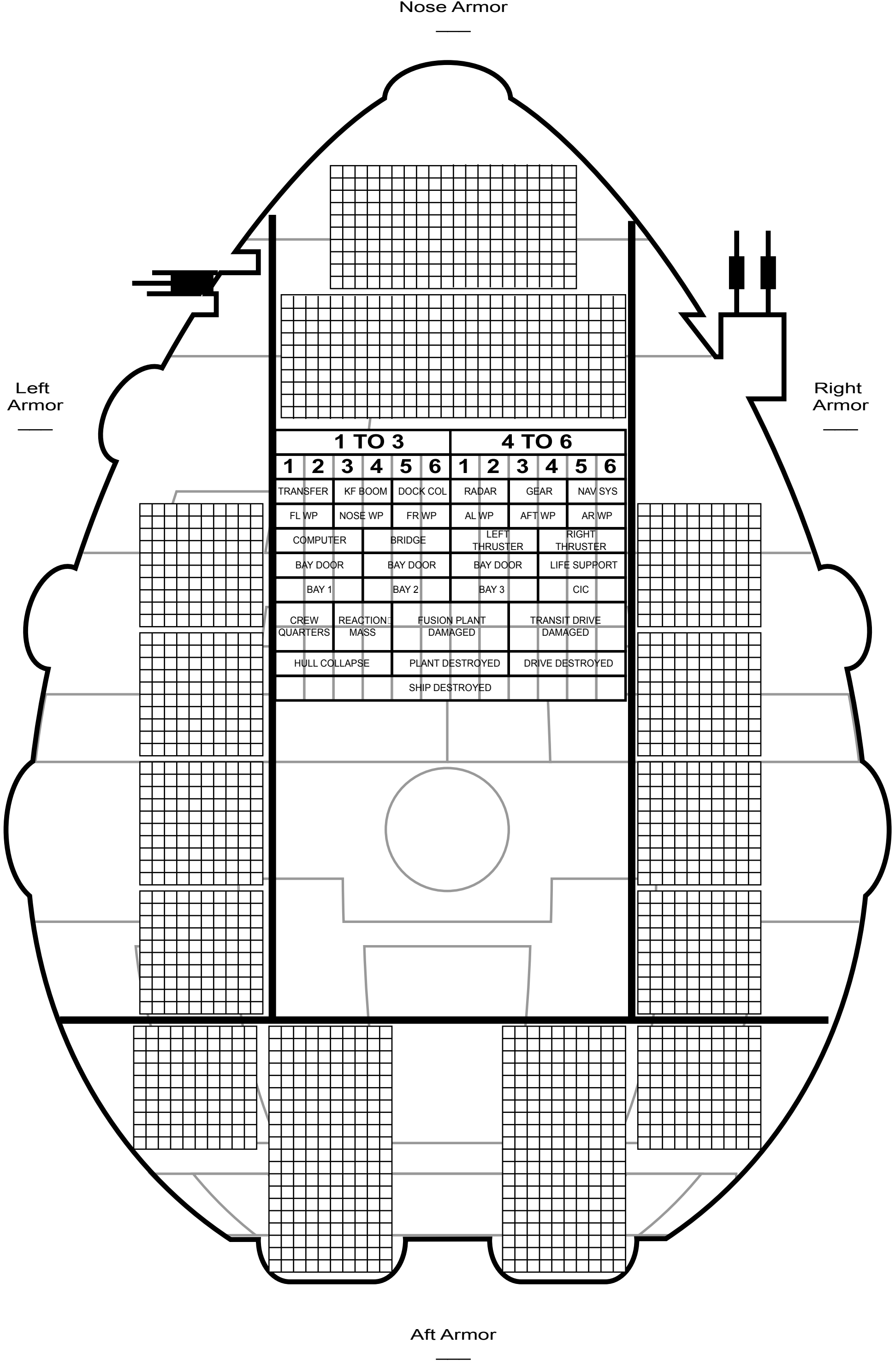
BATTLESPACE

SPHEROID DROPSHIP RECORD SHEET

ARMOR DIAGRAM



<table>
<tr><th colspan="6">1 TO 3</th><th colspan="6">4 TO 6</th></tr>
<tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th></tr>
<tr><td colspan="2">TRANSFER</td><td colspan="2">KF BOOM</td><td colspan="2">DOCK COL</td><td colspan="2">RADAR</td><td colspan="2">GEAR</td><td colspan="2">NAV SYS</td></tr>
<tr><td colspan="2">FL WP</td><td colspan="2">NOSE WP</td><td colspan="2">FR WP</td><td colspan="2">AL WP</td><td colspan="2">AFT WP</td><td colspan="2">AR WP</td></tr>
<tr><td colspan="3">COMPUTER</td><td colspan="3">BRIDGE</td><td colspan="3">LEFT THRUSTER</td><td colspan="3">RIGHT THRUSTER</td></tr>
<tr><td colspan="3">BAY DOOR</td><td colspan="3">BAY DOOR</td><td colspan="3">BAY DOOR</td><td colspan="3">LIFE SUPPORT</td></tr>
<tr><td colspan="3">BAY 1</td><td colspan="3">BAY 2</td><td colspan="3">BAY 3</td><td colspan="3">CIC</td></tr>
<tr><td colspan="2">CREW QUARTERS</td><td colspan="2">REACTION MASS</td><td colspan="4">FUSION PLANT DAMAGED</td><td colspan="4">TRANSIT DRIVE DAMAGED</td></tr>
<tr><td colspan="4">HULL COLLAPSE</td><td colspan="4">PLANT DESTROYED</td><td colspan="4">DRIVE DESTROYED</td></tr>
<tr><td colspan="12">SHIP DESTROYED</td></tr>
</table>

Cost: ______

Velocity Record

Turn #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Thrust																				
Velocity																				
Effective Velocity																				
Altitude																				
Fuel																				

Vessel Data

Type: ____________________ Tonnage: _________

Name: ____________ Affiliation: _________

Thrust: Technology Base :

Safe Thrust: ______ ☐ Clan

Maximum Thrust: ______ ☐ Inner Sphere

Fighters/Small Craft: ___/___ Launch Rate: ______

Life Boats/Escape Pods: ___/___

Total Heat Sinks: ___ (___) Single ☐ Double ☐

Weapons and Equipment Inventory

Weapon	Heat	Arc	SRV	MRV	LRV	ERV
		Standard	(1-6)	(7-12)	(13-20)	(21-25)
		Capital	(0-12)	(13-24)	(25-40)	(41-50)

Crew Data

Gunnery Skill: ____ Piloting Skill: ____

Hits Taken	1	2	3	4	5	6
Modifier	+1	+2	+3	+4	+5	Incp.

Crew: ____ Marines: ____ Other: ____

Passengers: ____ Elementals: ____ Battle Armor: ____

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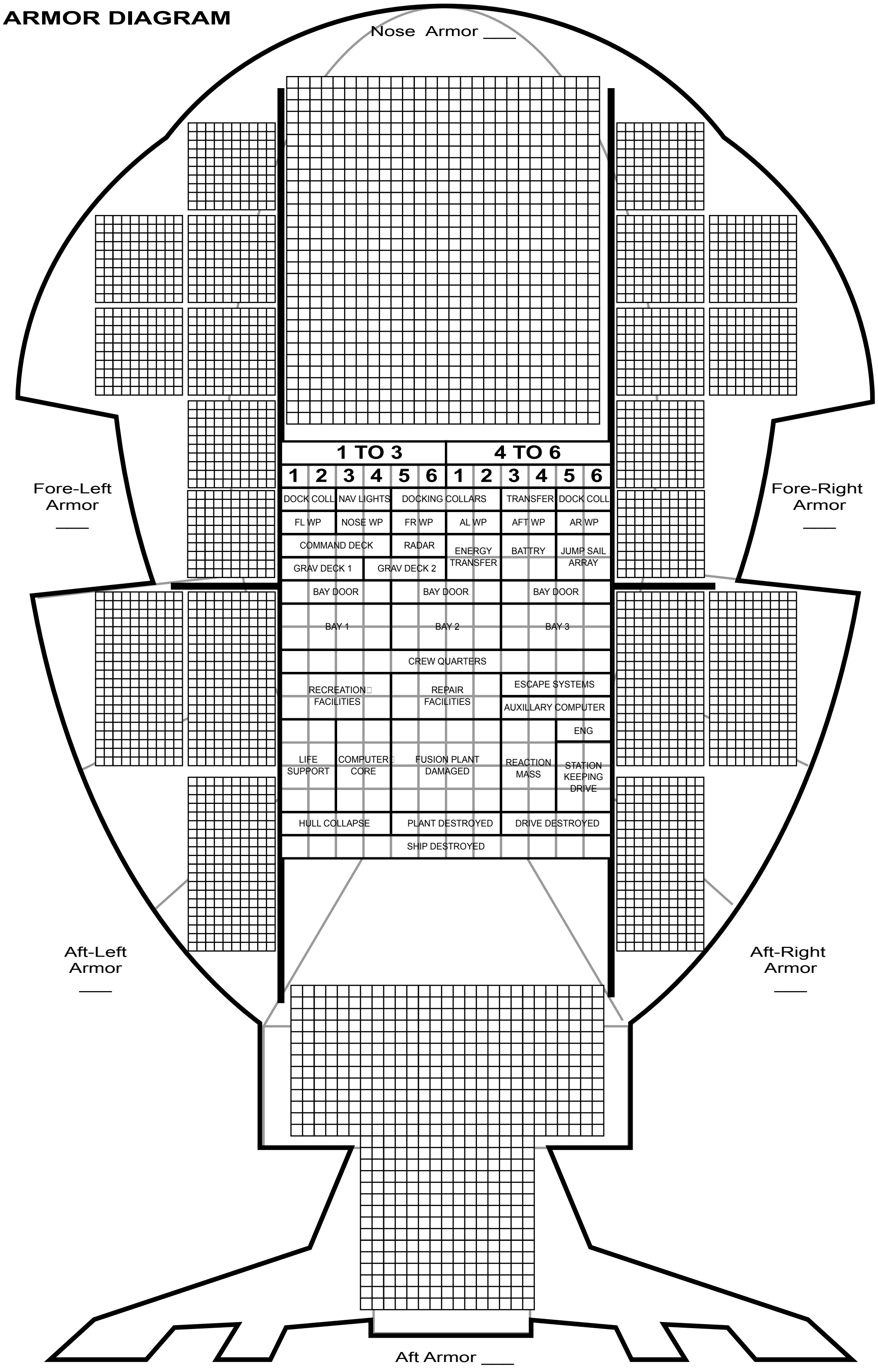
BATTLESPACE
SPACESTATION RECORD SHEET

ARMOR DIAGRAM


Nose Armor ___
Fore-Left Armor ___
Fore-Right Armor ___
Aft-Left Armor ___
Aft-Right Armor ___
Aft Armor ___
1 TO 3
4 TO 6
1 2 3 4 5 6 1 2 3 4 5 6
DOCK COLL
NAV LIGHTS
DOCKING COLLARS
TRANSFER
DOCK COLL
FL WP
NOSE WP
FR WP
AL WP
AFT WP
AR WP
COMMAND DECK
RADAR
ENERGY TRANSFER
BATTRY
JUMP SAIL ARRAY
GRAV DECK 1
GRAV DECK 2
BAY DOOR
BAY DOOR
BAY DOOR
BAY 1
BAY 2
BAY 3
CREW QUARTERS
RECREATION FACILITIES
REPAIR FACILITIES
ESCAPE SYSTEMS
AUXILLARY COMPUTER
ENG
LIFE SUPPORT
COMPUTER CORE
FUSION PLANT DAMAGED
REACTION MASS
STATION KEEPING DRIVE
HULL COLLAPSE
PLANT DESTROYED
DRIVE DESTROYED
SHIP DESTROYED

Cost: ______

Velocity Record

Turn #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Thrust																					
Velocity																					
Effective Velocity																					
Fuel																					

Vessel Data

Type: ____________________ Tonnage: _________

Name: ____________ Affiliation: __________

Thrust: Technology Base :

Station Keeping Only ☐ Clan

☐ Inner Sphere

Dropships: ______ Escape Pods: ______

Small Craft: ______ Life Boats: ______

Fighters: ______ Launch Rate: ______

Total Heat Sinks: ___ (____) Single ☐

Double ☐

Weapons and Equipment Inventory

Weapon	Heat	Arc	SRV	MRV	LRV	ERV
		Standard	(1-6)	(7-12)	(13-20)	(21-25)
		Capital	(0-12)	(13-24)	(25-40)	(41-50)

Crew Data

Gunnery Skill: ____ Piloting Skill: ____

Crew: ____ Marines: ___ Other: ___

Passengers: ____ Elementals: ___ Battle Armor: ___

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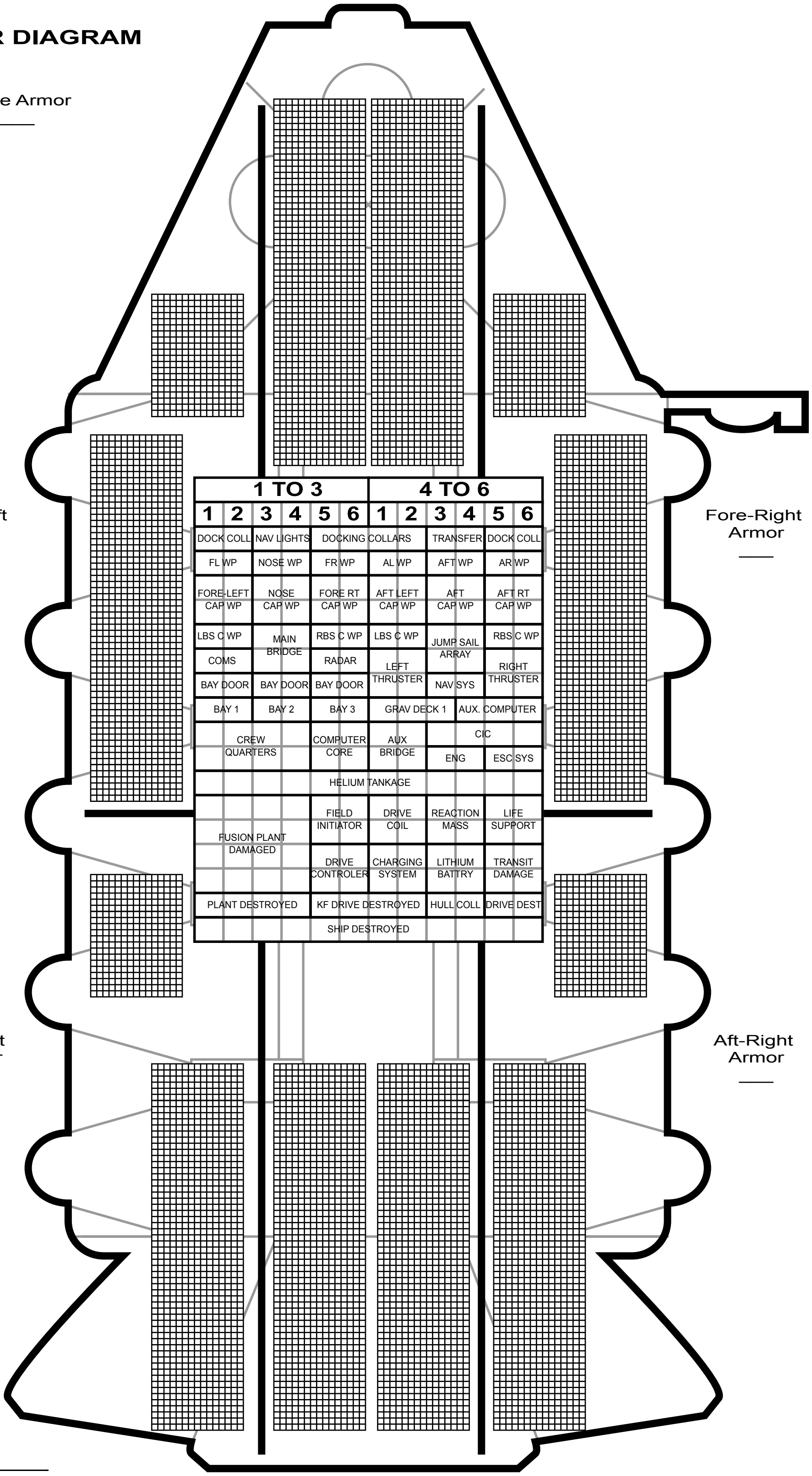
BATTLESPACE
SMALL WARSHIP RECORD SHEET

ARMOR DIAGRAM



Nose Armor ___

Fore-Left Armor ___

Fore-Right Armor ___

Aft-Left Armor ___

Aft-Right Armor ___

Aft Armor ___

1 TO 3						4 TO 6					
1	2	3	4	5	6	1	2	3	4	5	6
DOCK COLL		NAV LIGHTS		DOCKING COLLARS				TRANSFER		DOCK COLL	
FL WP		NOSE WP		FR WP		AL WP		AFT WP		AR WP	
FORE-LEFT CAP WP		NOSE CAP WP		FORE RT CAP WP		AFT LEFT CAP WP		AFT CAP WP		AFT RT CAP WP	
LBS C WP		MAIN BRIDGE		RBS C WP		LBS C WP		JUMP SAIL ARRAY		RBS C WP	
COMS				RADAR		LEFT THRUSTER				RIGHT THRUSTER	
BAY DOOR		BAY DOOR		BAY DOOR				NAV SYS			
BAY 1		BAY 2		BAY 3		GRAV DECK 1			AUX. COMPUTER		
CREW QUARTERS				COMPUTER CORE		AUX BRIDGE		CIC			
								ENG		ESC SYS	
HELIUM TANKAGE											
FUSION PLANT DAMAGED				FIELD INITIATOR		DRIVE COIL		REACTION MASS		LIFE SUPPORT	
				DRIVE CONTROLER		CHARGING SYSTEM		LITHIUM BATTRY		TRANSIT DAMAGE	
PLANT DESTROYED				KF DRIVE DESTROYED				HULL COLL		DRIVE DEST	
SHIP DESTROYED											

Cost: ______

Velocity Record

Turn #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Thrust																				
Velocity																				
Effective Velocity																				
Fuel																				

Vessel Data

Type: ____________________ Tonnage: _________

Name: ____________ Affiliation: _________

Thrust: Technology Base :

Safe Thrust: ______ ☐ Clan

Maximum Thrust: ______ ☐ Inner Sphere

Dropships: ______ Escape Pods: ______

Small Craft: ______ Life Boats: ______

Fighters: ______ Launch Rate: ______

Total Heat Sinks: ___ (____) Single ☐ Double ☐

Weapons and Equipment Inventory

Weapon	Heat	Arc	SRV	MRV	LRV	ERV
		Standard	(1-6)	(7-12)	(13-20)	(21-25)
		Capital	(0-12)	(13-24)	(25-40)	(41-50)

Crew Data

Gunnery Skill: ____ Piloting Skill: ____

Crew: ____ Marines: ____ Other: ____

Passengers: ____ Elementals: ____ Battle Armor: ____

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FIGHTER RECORD SHEET

UNIT DESIGNATION: *Valkyrie Squadron* **AFFILIATION:** *FRR*

FIGHTERS		ARMOR										AP
MAX CLAN	10	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	100
	9	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	90
	8	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	80
	7	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	70
MAX IS	6	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	60
	5	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	50
	4	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	40
	3	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	30
	2	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	20
	1	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	10

FIGHTER ATTACK VALUES

	HT	SH	MD	LG	EXT
FORWARD	9	1	1		
LEFT WING	6	1			
RIGHT WING	6	1			
AFT					

SAFE THRUST	6
MAX THRUST	9
CURRENT THRUST	
VELOCITY	

HEAT SINKS	13
FUEL	75

UNIT DESIGNATION: *Aesir Squadron* **AFFILIATION:** *FRR*

FIGHTERS		ARMOR										AP
MAX CLAN	10	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	100
	9	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	90
	8	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	80
	7	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	70
MAX IS	6	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	60
	5	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	50
	4	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	40
	3	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	30
	2	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	20
	1	☐	☐	☐	☐	▨	▨	▨	▨	▨	▨	10

FIGHTER ATTACK VALUES

	HT	SH	MD	LG	EXT
FORWARD	11	2	1		
LEFT WING	3	1			
RIGHT WING	3	1			
AFT	2	1			

SAFE THRUST	6
MAX THRUST	9
CURRENT THRUST	
VELOCITY	

HEAT SINKS	15
FUEL	75

UNIT DESIGNATION: *Fenir Squadron* **AFFILIATION:** *FRR*

FIGHTERS		ARMOR										AP
MAX CLAN	10	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	100
	9	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	90
	8	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	80
	7	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	70
MAX IS	6	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	60
	5	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	50
	4	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	40
	3	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	30
	2	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	20
	1	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	10

FIGHTER ATTACK VALUES

	HT	SH	MD	LG	EXT
FORWARD	10	2	1		
LEFT WING	2	1			
RIGHT WING	2	1			
AFT					

SAFE THRUST	6
MAX THRUST	9
CURRENT THRUST	
VELOCITY	

HEAT SINKS	12
FUEL	45

UNIT DESIGNATION: *Norn Squadron* **AFFILIATION:** *FRR*

FIGHTERS		ARMOR										AP
MAX CLAN	10	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	100
	9	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	90
	8	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	80
	7	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	70
MAX IS	6	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	60
	5	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	50
	4	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	40
	3	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	30
	2	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	20
	1	☐	☐	☐	▨	▨	▨	▨	▨	▨	▨	10

FIGHTER ATTACK VALUES

	HT	SH	MD	LG	EXT
FORWARD	6	1			
LEFT WING	3	1			
RIGHT WING	3	1			
AFT					

SAFE THRUST	10
MAX THRUST	15
CURRENT THRUST	
VELOCITY	

HEAT SINKS	10
FUEL	75

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BATTLESPACE

THE BATTLETECH GAME OF SPACE COMBAT

IT IS 3056, CENTURIES SINCE THE FALL OF THE STAR LEAGUE, AND THE SUCCESSOR STATES OF THE INNER SPHERE FACE THEIR GREATEST THREAT EVER — THE CLANS, WARLIKE INVADERS FROM BEYOND KNOWN SPACE. AS THE MIGHTY ARMIES OF THE TWO CIVILIZATIONS CLASH ON THE FAR-FLUNG WORLDS OF HUMANITY. THEIR INTERSTELLAR ARMADAS WAGE WAR IN THE INFINITE BATTLEFIELD OF SPACE.

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FASA CORPORATION

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